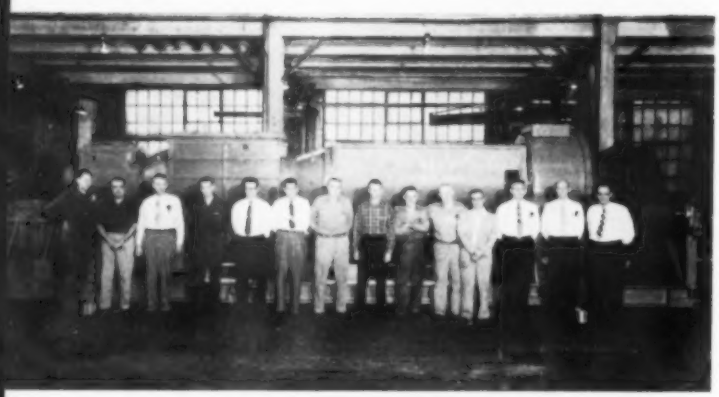
A CAHNERS PUBLICATION

NOVEMBER, 1960/75c

Brick & Clay RECORD

• The Diplomat Hotel, Hollywood, Fla. Site of 1960 SCPI Convention.



SCPI 2 FOR 1 INDUSTRY

"We're mighty glad to be here"

Becoming a supplier to the clay products industry was by our own choice! We think your industry is a vital force in construction and we are happy to be a part of this activity through purchase of the Bonnot Company.

Toward that objective we pledge "product advancements tailored to individual needs . . . expansion of plant facilities . . . personalized customer service by Bonnot specialists plus Gougler technicians already serving widely divergent fields."

To accomplish these objectives we back up Bonnot experience with all the integrated facilities of the Gougler industries. This includes a broadened engineering and design department — a greatly enlarged testing laboratory in Canton — the world's largest contract machine shop in Kent — modernization of the Canton foundry — shipment of spare (normal wearing) parts within 24 hours.

Bonnot operations will continue in Canton. At your call is the *"strongest and most complete team in the clay industry."* You're invited to inspect and use the new facilities . . . as we look forward to becoming a worthy partner in a basic and recognized industry.

Charles W. Enyart,
President

STEP AHEAD WITH BONNOT

Circle Service No. 10

Rugged Machines for Constant Low Cost Operation—BONNOT'S the Be

The BONNOT Co.

CANTON 2, OHIO

DIVISION OF

THE G. L. GOUGLER MACHINE CO. • KENT, O.

CRUSHERS
HAMMER MILLS
DRY PANS
WET PANS
GRINDERS
FEEDERS

AUGER MACHINES
VACUUM MACHINES
SPECIAL EXTRUDERS
PUG MILLS
SPECIAL MACHINES TO ORDER
DIRECT FOUNDRY SERVICE

CUTTERS
REPRESSES
DIES
MIXERS

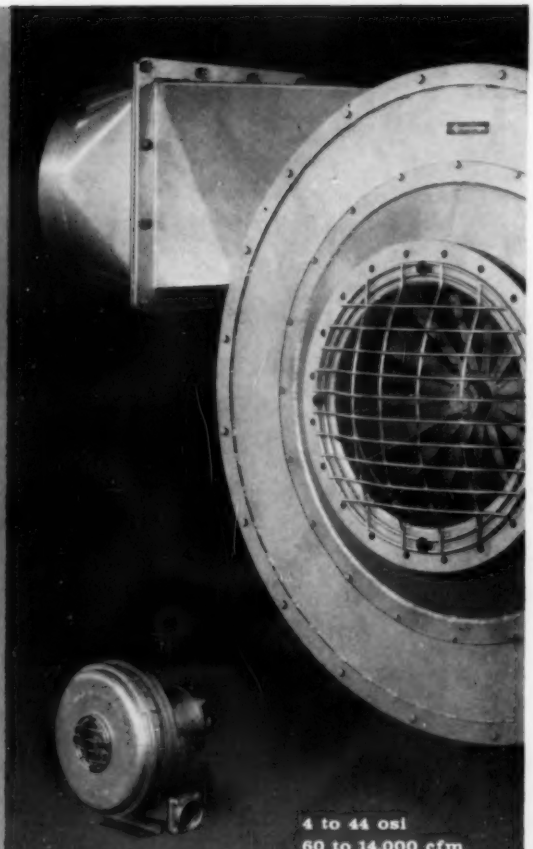
North American TURBO BLOWERS

High $\frac{cfm}{hp}$ Ratio

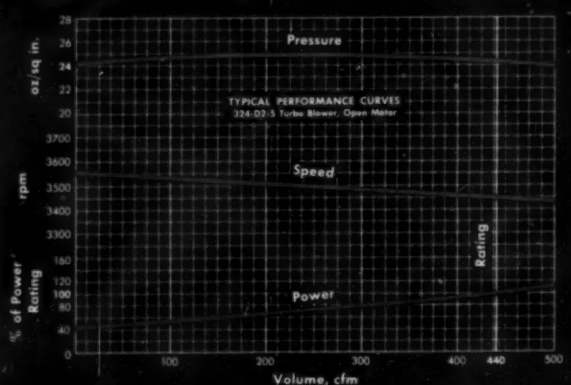
Accurately Rated & Tested

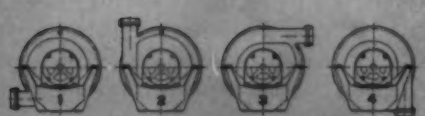
Continuous Industrial Service

Many Options



maintain constant pressure within rated volume—
for combustion
atomizing
agitating
blowing
cooling
drying
conveying
exhausting





Call your nearby North American engineer or write for bulletin 300

NORTH AMERICAN for COMBUSTION and Hydraulic Controls

The North American Mfg. Co.
Cleveland 5, Ohio

Circle Service No. 11

IF YOU MAKE BRICK

we can show you how to COLOR it!

Until recently, brick coloring was largely confined to the use of colored glazes, yet relatively few manufacturers could fit glazing into their brick-making processes. As demand increased for more and more color on brick, we developed economical coloring methods which all face brick manufacturers can use. Colored engobes and colored sands are a direct result of our research, so Drakenfeld can now offer a coloring material to suit almost any brick processing setup.

Whatever your plans for producing colored brick, an experienced team of Drakenfeld color ceramists will gladly assist you with prompt, dependable solutions to your coloring problems. We cordially invite your inquiry.

SAND COLORS: If you use a sand mold, sand blast, or any kind of sand finishing operation, Drakenfeld has a complete palette of colors for you. They are colors you merely mix with your sand and apply by your normal sand coating technique. No change in processing—no special processsing required. The cost is low.

ENGOBE STAINS: Engobes can provide a permanent colored surface for your brick at low cost. Engobe formulas available on request. The mixes are easy to prepare.

GLAZE STAINS: Strong yellows, clean pinks, stable blue-green and grays. A complete line of quality stains . . . laboratory controlled to insure maximum workability and uniformity.

GLAZE SPECKS: Years of leadership in speck production enable us to recommend the best speck for your needs, sized to exacting specifications.

PREPARED GLAZES: For brick manufacturers who wish to produce limited quantities of glazed brick without investing heavily in glaze preparation equipment. These glazes are supplied completely ground and ready to mix with water. Wide range of brick and pastel colors are available.

CALL ON Drakenfeld

YOUR PARTNER IN SOLVING COLOR PROBLEMS

B. F. DRAKENFELD & CO., INC.

Executive Offices: **45 Park Place, New York 7, N. Y.**

Factory and Research Center: **Washington, Pa.**

SCPI MANUFACTURING ASSOCIATE

Pacific Coast Agents:

BRAUN CHEMICAL COMPANY, 1363 So. Bonnie Beach Place, LOS ANGELES 54, California, Phone: ANgelus 9-9311

BRAUN-KNECHT-HEIMANN COMPANY, 1400 Sixteenth Street, SAN FRANCISCO 19, California, Phone: HEmlock 1-8800

Circle Service No. 12

LEADING CLAY JOURNAL OF THE WORLD

A CAHNERS PUBLICATION

Brick & Clay RECORD

NOVEMBER, 1960

Vol. 137, No. 5

SOUTH WABASH AVE.
CHICAGO 3, ILL.
FRanklin 2-6880

Established 1892
now in 68th year.

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THE MAGAZINE OF—*Brick—Drain Tile—Structural Tile—Clay Aggregate—Terra Cotta—Roofing Tile—Refractories—Clay Pipe—Abrasives*

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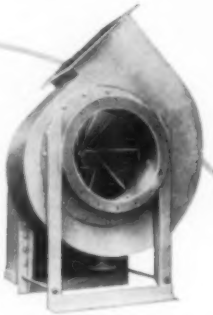
ROBBY SAYS:

Look to
ROBINSON
for
Smooth Handling
of Air

IN KILNS—DRYERS—SINTERING BELTS

Robinson air handling equipment for the ceramic industry is custom-engineered to meet the specific requirements designed into your tunnel kilns, periodic kilns, sintering belts, or product dryers. Long experience in improving air handling techniques gives Robinson engineers quick understanding of your problem, plus the know-how for solving it. Every Robinson solution has 3 ingredients: (1) efficient air handling, (2) low power consumption, and (3) extended mechanical life.

Type J Fan
600 to 450,000 cfm
Bulletin 2500



Type AE Exhauster
400 to 90,000 cfm
Bulletin 5100

Sulky Type
Man Cooling Fan
Bulletin 8001

Type CS
Pressure Blower
Bulletin 1100

SUSTAINING ASSOCIATE SCPI

Why not take a tip from Robby—look to Robinson for smooth handling of air—the result of expert engineering cooperation. Write today.

Member of AMCA

INDUSTRIAL FANS • BLOWERS • EXHAUSTERS
ROBINSON VENTILATING CO.
119 HENDERSON STREET, ZELIENOPLE, PA.

Circle Service No. 13

Letters to the Editor

I am enclosing a hand written letter to our company regarding an over shipment of brick. Thought it might make an amusing thing for printing in your *Brick and Clay Record*.

W. K. Zinszer
Hamilton Pressed Brick Co.
Ontario, Canada

"Dear Sirs:

Late in October an agent for your company measured up my home for brick and told me it would require 5600 bricks to cover it.

I have no complaints about the brick because they look just fine.

My complaint is. How come this agent couldn't *guess* within 500 bricks of how many it would take for the job.

We had enough to cover the house, build chimney and allowing for breakage and waste I still have 490 left over.

Do you people take these extra brick back for credit or do I have to go thru some other agent or of course build another house to get rid of them?

I don't know the name or address of the galoot who measured the house or I would call or write him.

Yours very truly
Arthur Lamberton"

P.S. It might be a good idea if he thru his dime store slide rule away and bought a good one.

Dear Sirs:

I like your October issue very much. I was particularly interested in your Clay Modifiers section. You have done an excellent job of describing engobes, it seems to this non-technical reader.

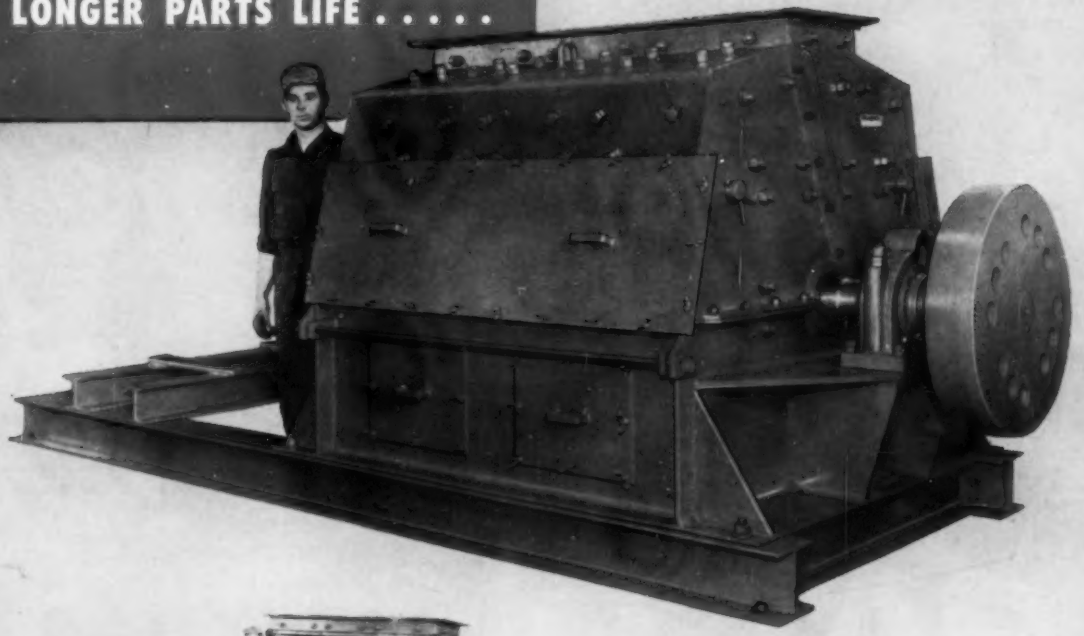
As you know, we have done quite a bit of work on colored engobes and have generated a good deal of interest in the field. Your thorough explanation of the term "engobe" should be appreciated by the many brick companies who have written us that engobes are unfamiliar to them.

Sincerely,
B. Strickland-Clarke
Director of Advertising
Pemco Corporation

Continued on page 83

NEW DUAL "2-POINT" ADJUSTMENT INSURES MORE UNIFORM GRINDING, LONGER PARTS LIFE . . . . .

WILLIAMS *Reversible* HAMMER MILLS



Williams Reversible Hammer Mill with cover open.
Note these features:

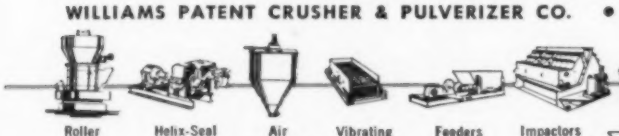
- Super-strong reinforced steel plate frame
- Renewable wear-resistant manganese steel liners
- Heavy duty oversize forged steel rotor shaft
- Anti-friction self-aligning roller bearings in dust-tight housings
- Complete accessibility to interior for quick parts changing

It's another Williams "first"—features not available in other hammer mills—that now makes it possible to maintain the original close clearances of *both* grinding plates *AND* cage sections against the rotating hammers. This easy-to-make "2-point" adjustment, in the most critical grinding area inside the hammer mill, gives absolute assurance of consistently uniform product quality.

In addition to the advantages of the Dual "2-Point" Adjustment, a Williams Reversible Hammer Mill substantially lowers upkeep expense by cutting hammer cost. Hammers can be operated in one direction today and another tomorrow simply by installing a simple reversing switch on the driving motor. Manual reversing of hammers no longer necessary. Grate bars also last longer. The double set of reversible manganese breaker plates, which last twice as long as other types, give four times the service! Maintenance and downtime are cut 50% or more.

Get all the facts about the hammer mill with *ALL* the top features.

WILLIAMS PATENT CRUSHER & PULVERIZER CO. • **2709 N. BROADWAY** • **ST. LOUIS 6, MO.**



WILLIAMS
CRUSHERS GRINDERS SHREDDERS
Oldest and Largest Manufacturers of Hammer Mills in the World

Circle Service No. 14

A Superior Car Top-

made from a superior raw material!

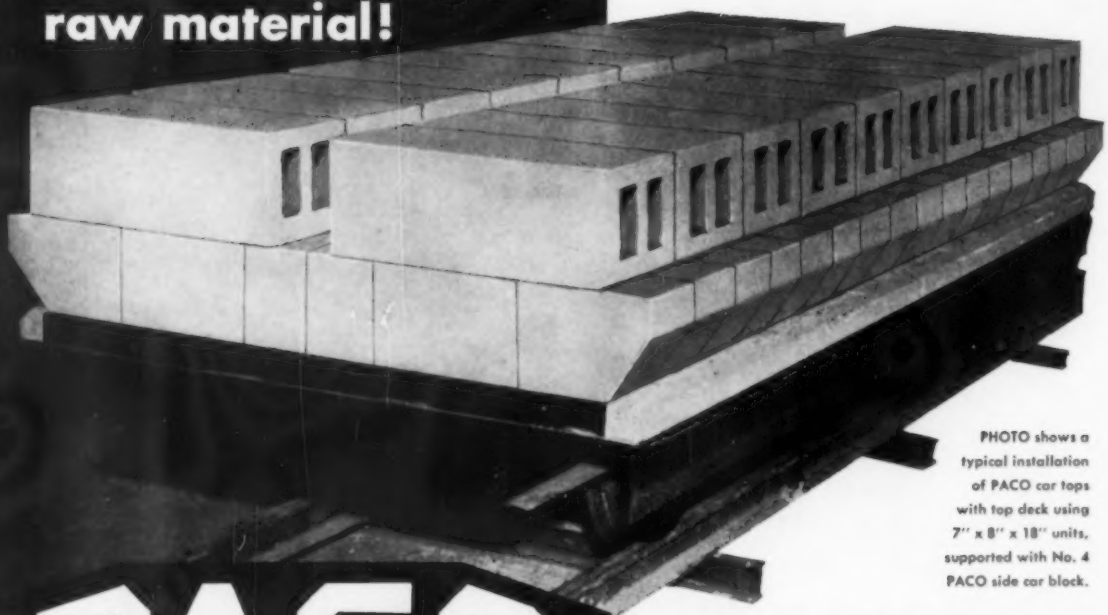
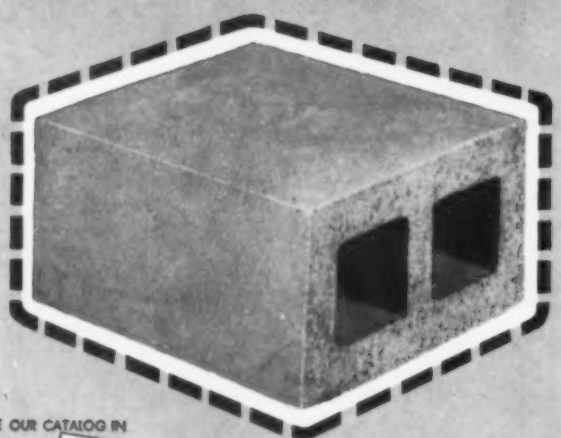


PHOTO shows a typical installation of PACO car tops with top deck using 7" x 8" x 18" units, supported with No. 4 PACO side car block.

PACO CAR TOPS

are made from the mineral pyrophyllite!



SEE OUR CATALOG IN Ceramic data book

Only PACO car tops are made from the mineral pyrophyllite. This is important because it can reduce your car top replacement costs by as much as 50%!

PACO car tops are stronger and highly resistant to thermal shock and hot load deformation. They do not soften below their actual fusion point. And, because PACO car tops are cored, the load heats faster and gases are more evenly distributed. The result is better, more efficient production — at less cost!

There is a PACO engineer as close as your telephone — or write for complete information!

NORTH STATE PYROPHYLLITE CO.

INCORPORATED

Greensboro, North Carolina • Telephone CYpress 9-1441

OTHER PACO PRODUCTS INCLUDE: ✱ High Temp. Cement ✱ Fire Brick ✱ Heatzone ✱ Retort Cement ✱ Blow Off Tile ✱ Side Car Brick ✱ Ladle Mix ✱ Rear Arch Tile ✱ Plastic Cupola Linings ✱ Cupola Blocks

Circle Service No. 15

When you call in *specialists*...

. . . you get a ceramic plant designed for economical operation and quality product. Because ceramic plant specialists have the know-how and the proficiency to provide the complete, coordinated and mechanized plant package to manufacture your structural clay products from the receiving of your raw materials to the shipping floor of your finished product.

That is why it will pay you to consult engineers specializing in ceramic plant design and installation.

Tunnel Kiln

(above) Hendryx-designed, 280 foot tunnel kiln with three separately controlled firing zones and quenching and annealing zones, for burning buff face brick. Waste heat is salvaged for use in dryers.

Manufacturing Unit

(right) This unit, serving a tunnel brick kiln, extrudes, molds and cuts in a compact and efficiently arranged area, economical of plant floor space.

Setting Kiln Cars by "Lowervator"

(below) Platform is lowered at slow, adjustable speed for uniform level setting. Eliminates stooping and lifting, increases setting speed 50%, cuts setting tracks and labor cost 33%. Cars are moved on, off and along tracks automatically.

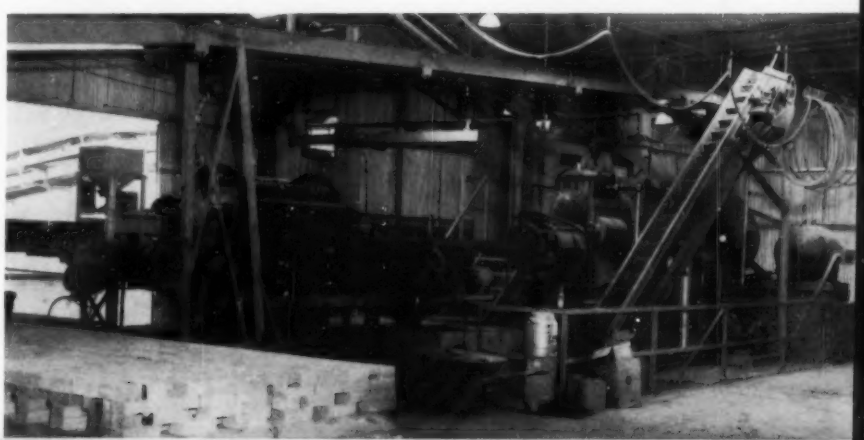
A Recently-built Plant

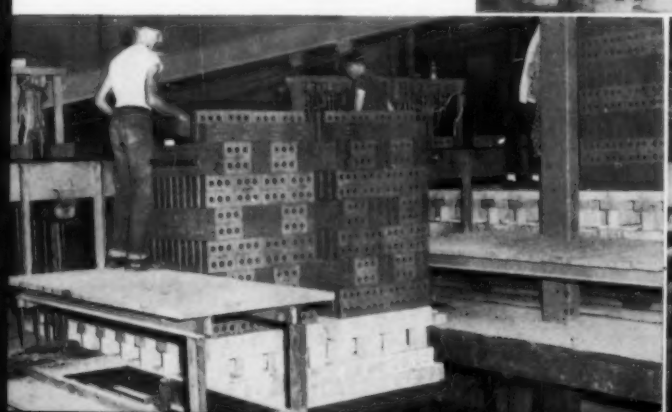
(lower right) Dryer racks of green sewer pipe in foreground; loaded kiln cars in background. Overhead are waste heat pipes from kiln to dryers.

Circle Service No. 16

HENDRYX
CERAMIC PLANT DESIGN

DWIGHT B. HENDRYX AND ASSOCIATES
6621 Darlington Road
PITTSBURGH 17, PA.

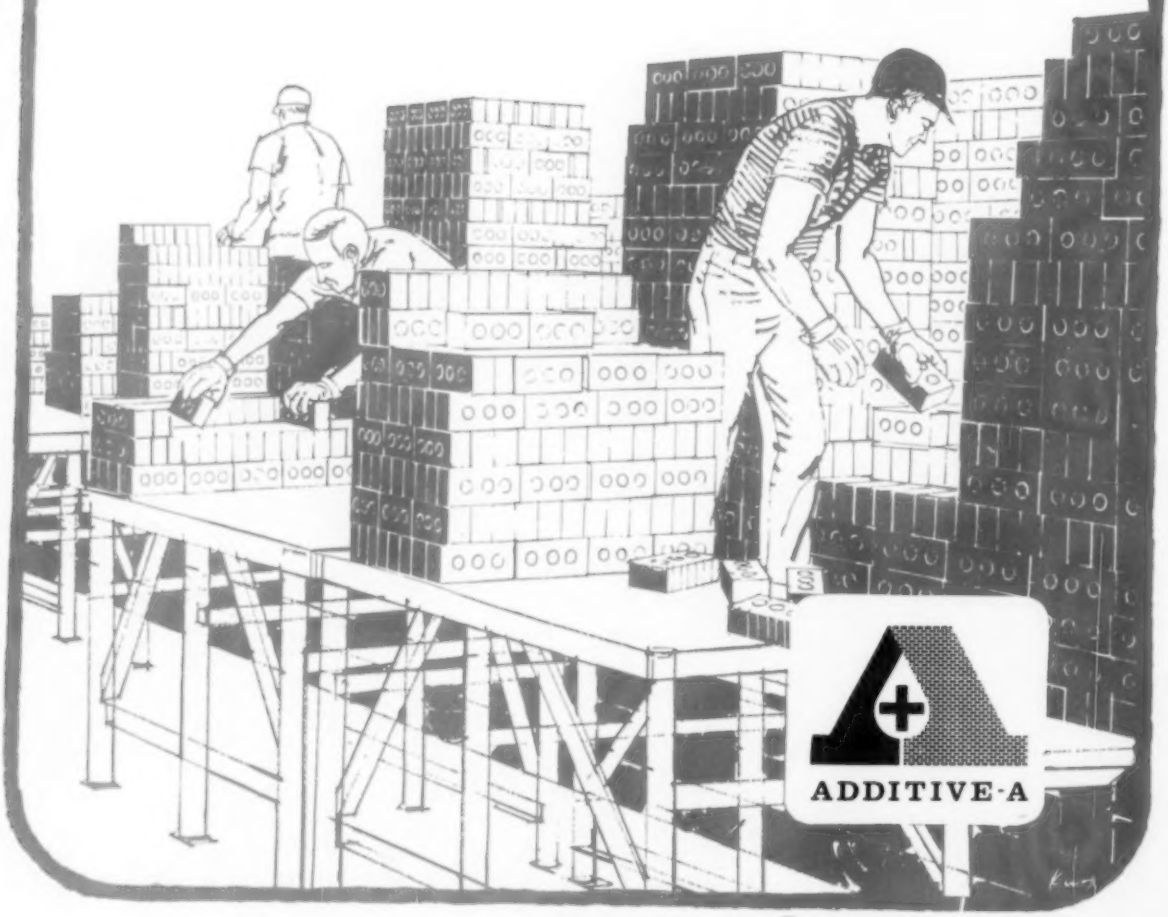




ADDITIVE-A INCREASES SALEABLE BRICK PRODUCTION FOR ACME BRICK COMPANY

FT. WORTH, TEXAS—Acme Brick Company, with 19 plants throughout Texas, Oklahoma, Arkansas, Louisiana and Kansas, is an enthusiastic user of Additive-A clay conditioner. Acme's director of plants, Mr. Joe P. Hobson, says: "We have obtained favorable results from the use of Additive-A in several of our plants in Texas, Kansas and Oklahoma. We feel that its use has materially aided our drying process, resulting in increased saleable production."

For descriptive folder on Additive-A, write to: Chemical Products, Department No. BCR-110, Kimberly-Clark Corporation, Neenah, Wisconsin



Kimberly-Clark Corporation Contributing Associate S C P I

Circle Service No. 17

NEW PRODUCTS

Liquid Burners

Two new compact, light weight LP-Gas "Liquid" burners, the CW-2 Corwill jet flame burner with 600,000 B.T.U. capacity and weight of only 3½ lbs. These burners are used wherever intense, even immediate heat is required.

Corwill International Corp.

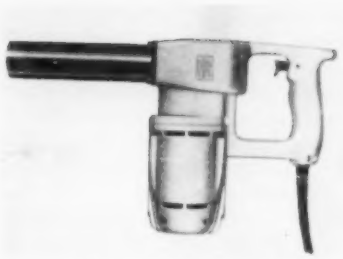
Circle Service No. 100

Tilt-Blade Dozer

Exclusive, hydraulically controlled blade can be raised up to 33 inches and each side can be tilted up or down a total of 28″, from the operator's seat—on the go. With power-tilting feature, machine can make digging passes in both directions, convert the usual non-productive back-up time into actual work time. Combined with torque converter drive (which instantly and automatically adjusts speed and power to load and footing), it gives the "1000" unmatched ability to start up under load as well as to travel and maneuver over rough terrain without dropping the load. Powered by a 100 hp diesel, the Case offers exceptional maneuverability through Terramatic (counter-rotating) Drive which permits 4-way power steering including "on-the-dime" spin turns. It also offers exceptional ground speed—to 6.0 mph in forward, 7.2 mph in reverse.

J. I. Case Co.

Circle Service No. 101

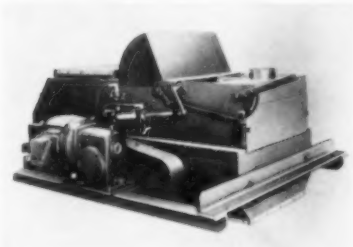


Power Hammer

Electric power hammer features greater durability, less maintenance, and faster operation than its predecessor. The H541U hammer delivers about 2500 blows per minute for roughing and breaking up concrete; chipping scale, rust or weld spatter; driving self-drilling anchors; pointing up stonework; peening rivets, and similar jobs. The piston rod is designed for greater strength and greater contact with the nylon buffer for long service life. A sturdy spring increases the piston's impact. Use of a spring eliminates maintenance problems caused by leaky air cushions or broken rubber thongs. The connecting rod is forged aluminum, and the crosshead stem is chrome-plated.

Ingersoll-Rand

Circle Service No. 102



Conveyor Feeder—Series C

An improved conveyor feeder for hard to handle materials. The Conveyor Feeder—Series C—is designed to more accurately feed the larger sizes of flaked, fibrous and similar materials ranging up to 1½ inches in diameter.

The Series C feeders are two-speed single conveyor belt units. Two control gates regulate feed flow rate. The first, a metering gate, controls the bulk material being fed to the belt. The second, a dribble control gate, suspended above the belt, controls the material flow from the belt to containers.

Thayer Scale Corp.

Circle Service No. 103

Mill Systems

Bradley Pulverizer Company has constructed and is operating a small roller mill system for test grinding a variety of materials. The mill will also be included in the company's line and offered for pilot plant and production operation. Outputs on materials such as Maryland soapstone and standard hardness limestone have run up to 3 tons per hour of 60 to 65% material passing 200 mesh. The mill will handle ⅜″ and down with moisture content not in excess of 2%.

The system includes raw material elevator and feed bin, 33″ i.d. mill with 2 or 3 rolls, finished material bin, secondary dust collector and electric control panel.

Bradley Pulverizer Co.

Circle Service No. 104

Jiffy-Lift

Efficient engineering and ease of operation insures years of economical trouble-free service, and make the loading and unloading job as rapid as possible. Features four-wheel drive, reduces slippage and is safer to load and unload on an incline, fast smooth operation. Also boasts automatic trip release and raises craddle while driver readies next cube. Automatically stops.

Elberfeld Mfg. Co.

Circle Service No. 105

Indicating Temperature Control

The E32NA dual switch indicating temperature control is a versatile wide range control (—150 to plus 650° F.) ideally suited for such applications as ovens, baths, environmental test chambers, molding machines, plant processes, etc. It features a calibrating mechanism which makes possible easy replacement of the thermal assembly in the field with no loss of calibration accuracy.

United Electric Controls Corp.

Circle Service No. 106

New Products Con't.

Test Apparatus Measures Density

Tests of the density of no-cohesive materials such as sands and gravels can now be made at construction sites in the field with this new test apparatus. The apparatus is designed for use by the contractors, testing laboratories, consulting engineers, research organization, and educational groups. It is light enough to be carried by one man.

In the test, oven dry samples of the test materials are placed in the cylinder and a load of the 1000 pounds is applied through a spring arrangement at the upper end of the apparatus. A hammer is then struck against the outside of the cylinder to vibrate the test materials into a more confined volume. The number of blows required to develop maximum compaction of the materials is correlated with density.

Soiltest, Inc.

Circle Service No. 107

Vibrating Screen

The Type K 4 x 10 vibrating screen is designed for use as a conventional unheated, high-speed screen or as an electrically heated screen. It is built with one or two decks with either or both decks easily adapted to Unilec heating equipment. The screen operates at 1750 rpm, using single-groove V-drive and weighs approximately 1400 lbs. Unilec heating equipment permits wide range in heat control, ease of-handling and fast cloth change.

Universal Vibrating Screen Co.

Circle Service No. 108

you can't beat an Overstrom!

That's no idle statement. Hundreds of Overstrom Vibrating Screen users *know*. Ask the next one you see!

It's the flat slope, the famous Overstrom action of the screen body on its unique spiral springs, the perfectly tensioned and supported screen cloth, and the advanced design of the optional electric heater installation, that help get *more clay through*.

Maintenance? Virtually none. Overstrom's heavy-duty spherical roller-bearings run in oil. Fatigue doesn't have a chance with the shot-peened, nickel-chrome-moly alloy steel (custom-built) springs. Screen cloth outlives competitive makes.

Cost? Perhaps a little more in some cases, but Overstroms pay it back *with interest* — with better performance, less maintenance, and longer life.

OVERSTROM VIBRATING SCREENS

(write for catalog and pictorial case histories.)

OVERSTROM & SONS, INC. • Dallas, Texas • Alhambra, California • USA

address inquiries to: 2213 West Mission Road, Alhambra, California

Circle Service No. 18

Air Hammer Kit

Is especially designed to cut "clean-out time" on tanks, drums, vats and mixing kettles. The kit contains the bantam bully air hammer with the exclusive metering trigger that lets the operator control blows per minute all the way from 0 to 13,000—with just the light pressure of his finger. The bantam bully gets its punch from the speed of its blows instead of from heavy slugging. The hammer weighs only 20 oz., measures just 6″ long, consumes only 6.5 cfm of air at 90 psi and can be operated all day with just one hand, without tiring the operator.

Superior Pneumatic & Mfg. Co.

Circle Service No. 109

Pipe Thermometer

Pipe thermometer that s i m p l y, easily and instantly clips to steam, water, refrigeration, gas and other pipes by means of twin spiral spring clips supplied with each intrument. The instruments can be attached or removed from the pipes in seconds and require no alteration of the pipes. This factor eliminates any need for branching or drilling. The thermometers are precalibrated to counteract the possibility of error through heat losses of radiation or convection.

They can be used for all pipes up to 3½″ in diameter. The dials are 2½″ in diameter, silvered, with black figures and polished chrome casings. The thermometers are graduated 2° divisions.

Abrax Instrument Corp.

Circle Service No. 110

Circle Service

Now you can receive FREE information on:

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Brick & Clay Record
5 So. Wabash Ave.
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2	14	26	38	50	62	74	86	98	110	122	134	146	158	170	182
3	15	27	39	51	63	75	87	99	111	123	135	147	159	171	183
4	16	28	40	52	64	76	88	100	112	124	136	148	160	172	184
5	17	29	41	53	65	77	89	101	113	125	137	149	161	173	185
6	18	30	42	54	66	78	90	102	114	126	138	150	162	174	
7	19	31	43	55	67	79	91	103	115	127	139	151	163	175	
8	20	32	44	56	68	80	92	104	116	128	140	152	164	176	
9	21	33	45	57	69	81	93	105	117	129	141	153	165	177	
10	22	34	46	58	70	82	94	106	118	130	142	154	166	178	
11	23	35	47	59	71	83	95	107	119	131	143	155	167	179	
12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	

NAME _____ TITLE _____

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3	15	27	39	51	63	75	87	99	111	123	135	147	159	171	183
4	16	28	40	52	64	76	88	100	112	124	136	148	160	172	184
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9	21	33	45	57	69	81	93	105	117	129	141	153	165	177	
10	22	34	46	58	70	82	94	106	118	130	142	154	166	178	
11	23	35	47	59	71	83	95	107	119	131	143	155	167	179	
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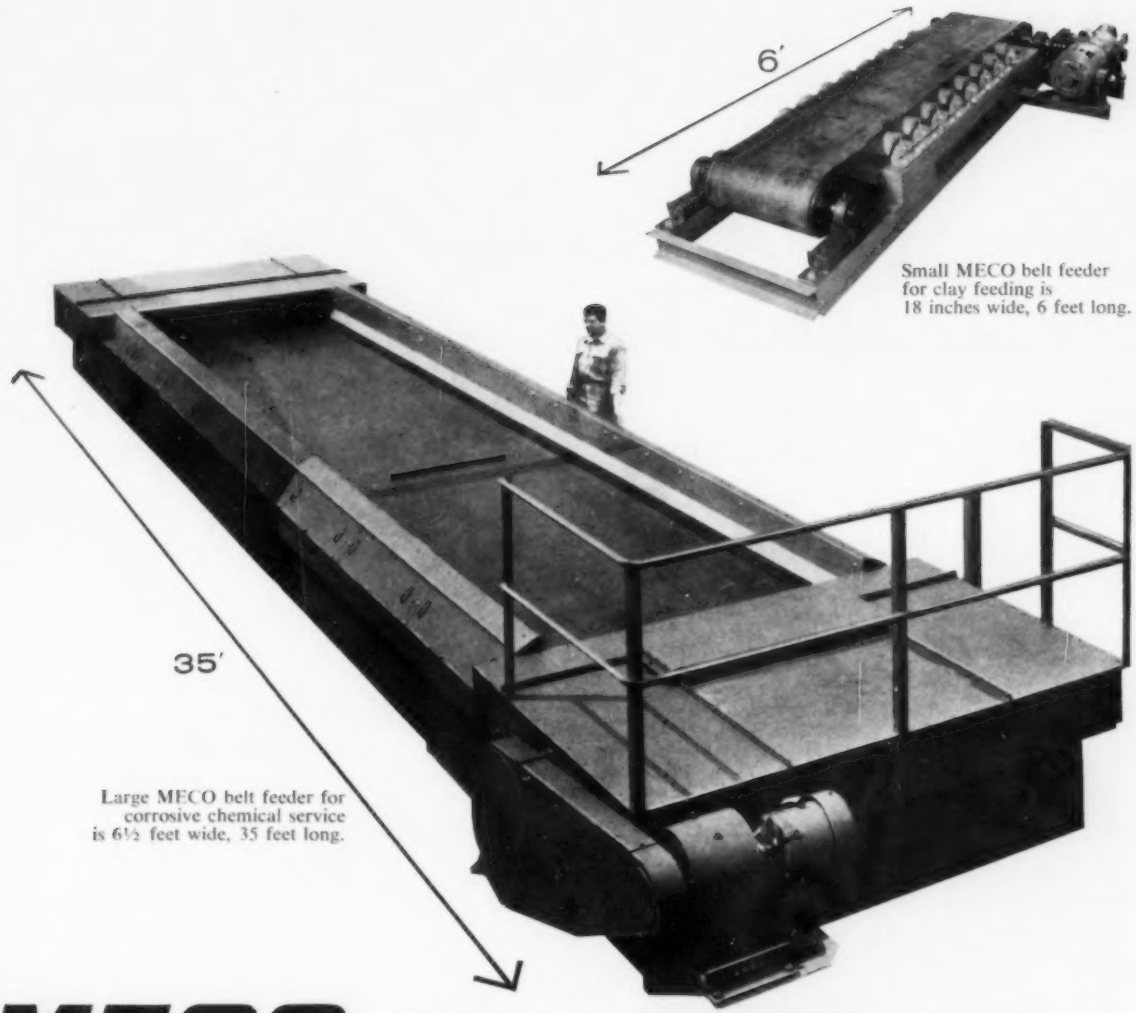

Small MECO belt feeder for clay feeding is 18 inches wide, 6 feet long.

Large MECO belt feeder for corrosive chemical service is 6½ feet wide, 35 feet long.

MECO engineered belt feeders

precise feeding for optimum profits

Of all the ways to feed bulk material, none offers the precise control plus other economic advantages of a MECO engineered belt feeder. It's the new equipment that progressive plants are investigating—and buying—to make all other equipment work at the most profitable capacity.

First, MECO belt feeders can offer infinitely variable speed control, even while operating. Feed rates can be adjusted automatically, or manually if you desire, from a few inches to many feet per minute.

Second, MECO belt feeders let you move materials direct from live bottom bins and hoppers. Because the opening can be as large as desired, there are no bridging problems. You can feed from the tallest silo—or if you are planning new construction, you can specify the largest possible storage facilities.

Third, MECO belt feeders reduce spillage and product contamination, improve housekeeping. Moreover, their rugged, heavy duty construction and simplified design cut maintenance to the bone.

MECO makes every type of feeder—apron, plate, disc, and belt—for an impartial recommendation, you can trust MECO's 50 years of experience. Request Bulletin 601 from The Manufacturers Equipment Company, 218 Madeira Avenue, Dayton, Ohio.

MECO

ENGINEERED CLAYWORKING AND HANDLING EQUIPMENT

Circle Service No. 19

REFRACTORIES

1961

Modern Refractories in Action

A Complete Industry Report . . .

Coming in January BRICK & CLAY RECORD

- **Where are they used?**
- **How are they used?**
- **What are the special properties of each type?**
- **When should they be replaced?**
- **How to select refractories?**

All the Special Types

HIGH ALUMINA	SILICA BRICK	MAGNESITE
INSULATING FIRE BRICK	SILICON CARBIDE	FORSTERITE
SEMI-SILICA	ZIRCON	PLASTIC
KAOLIN	ALUMINA-ZIRCONIA	CASTABLES
MULLITE	CHROME	RAMMING MIXES

Don't Miss It! . . . SUPPLIERS—Reserve Space Now

JANUARY DEADLINES

SPACE—DECEMBER 18

PLATES—DECEMBER 24

A CAHNERS PUBLICATION

BRICK & CLAY RECORD

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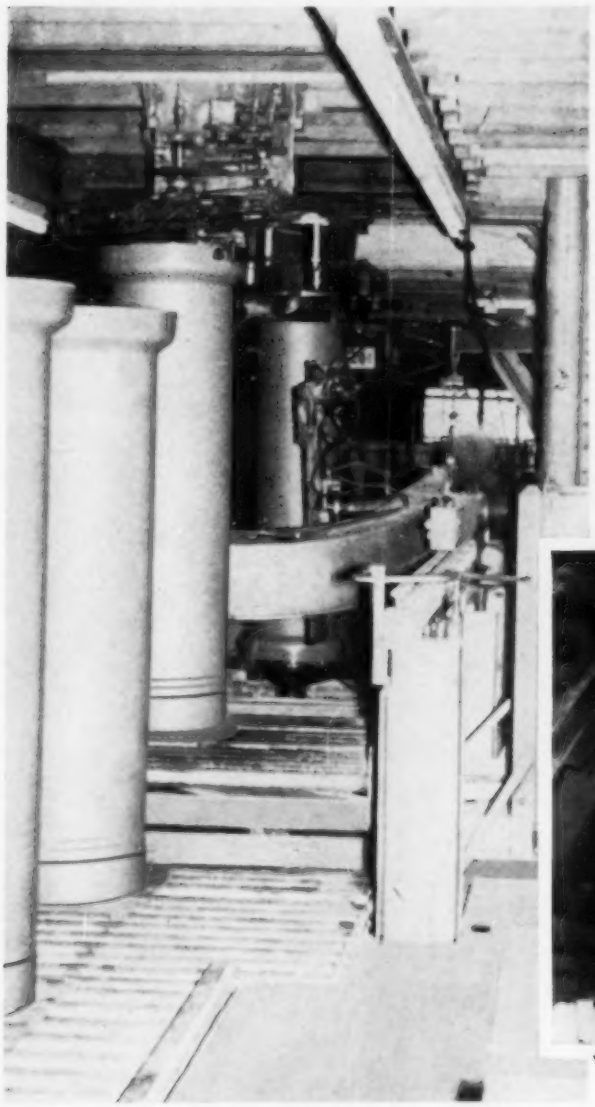
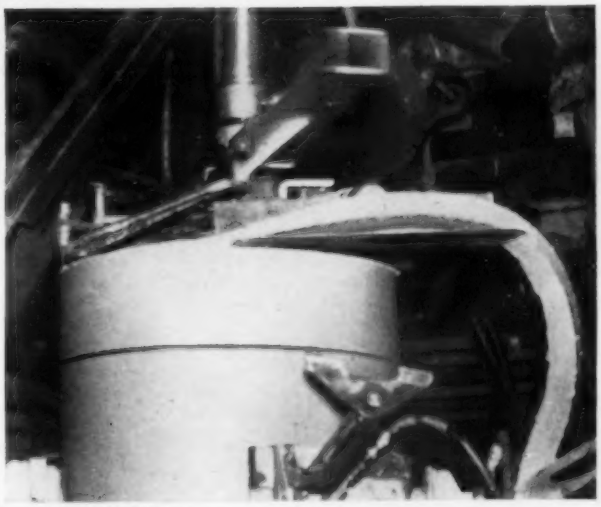


Note low head room

The "OCTOPUS"

Complete Automatic Production of Pipe with Drying Rings



*Patent Applied For

1—Removes large pipe from vertical press (No socket boards required)

2—Finishes both spigot and socket ends

3—Cuts pipe to length

4—Provides drying rings

5—Automatically places pallet board

6—Turns and places pipe on drying ring and pallet board

7—Rolls finished pipe out for truck pick-up

Number of men needed for above operations .....NONE

Write for details on the many new labor saving features in automatic handling and finishing equipment.

Engineers and Manufacturers of Automatic Handling and Finishing Equipment for the Ceramic Industry.

P.O. Box 3366, Terminal Annex,

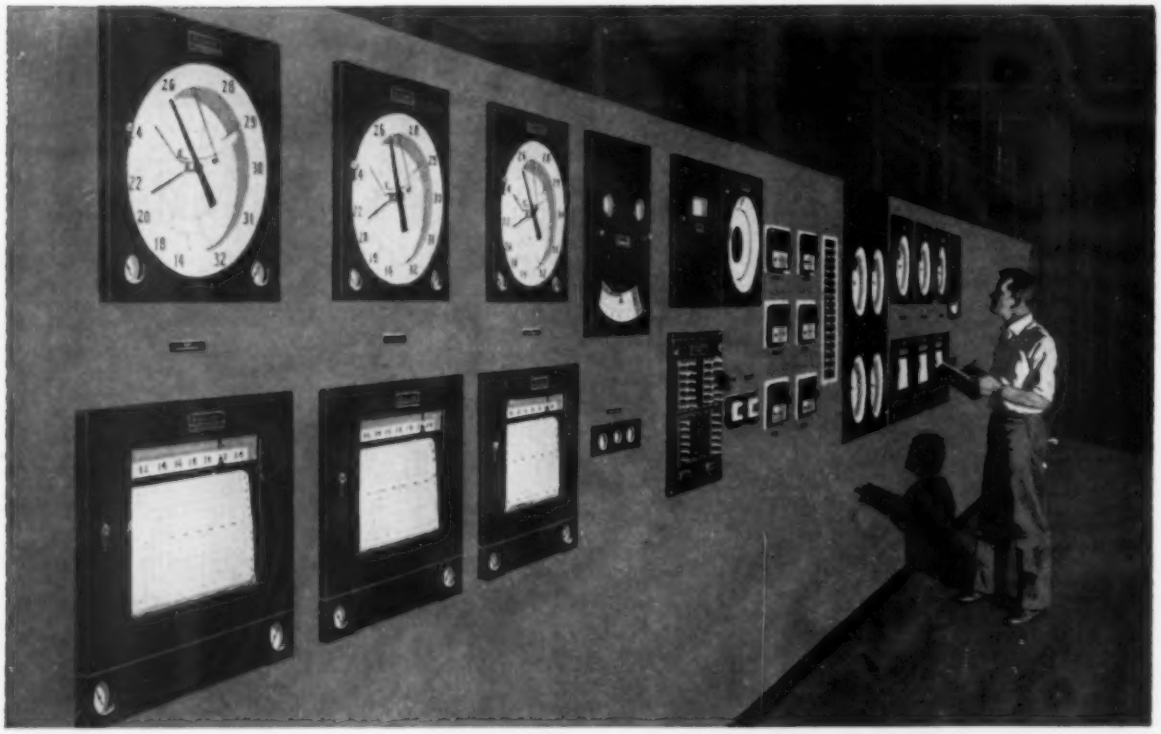
Los Angeles 54, California Phone: CU 3-1268

Eastern Representative

Dwight B. Hendryx, 6621 Darlington Rd., Pittsburgh, Pa.

Circle Service No. 21

PEARNE AND LACY INC. MACHINE COMPANY

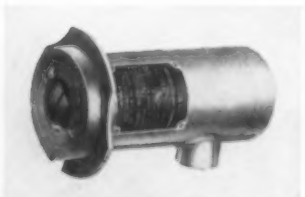


In the Honeywell control system, two *ElectroniK* recorder-controllers regulate temperature in each of three zones of four kilns. A circular chart recorder-controller is actuated by a *Radiamatic* radiation pyrometer sighted on a closed-end sighting tube in the combustion chamber. Below each circular chart instrument on the panel is a thermocouple-actuated *ElectroniK* strip chart recorder which measures temperature of the kiln ware space and resets the control index of the circular chart instrument. Flow of gas to burners is controlled by a Honeywell pneumatic valve positioner.

Kohler guards quality with Honeywell kiln controls at modern new plant

The vitreous plumbing ware plant of Kohler Co. at Spartanburg, S. C., incorporates the latest techniques and processes to keep quality high.

The new plant has four Swindell-Dressler gas-fired muffle tunnel kilns, each 400 feet long. On the present operating schedule a single pass through a kiln takes about two days. Honeywell instrumentation supplies automatic, ultra-precise temperature control in the kilns' firing zones. These controls keep product quality uniform.



Radiamatic radiation detector responds to 98% of any temperature change within two seconds, and is automatically compensated for ambient temperature changes.

Honeywell instrumentation serves the ceramic industry in many ways, bringing important day-to-day benefits wherever applied. Whatever your product or process, your nearby Honeywell field engineer can give you valuable help in gaining the advantages of automatic control. Call him today . . . he's as near as your phone.

MINNEAPOLIS-HONEYWELL, Wayne and Windrim Avenues, Philadelphia 44, Pa.—In Canada, Honeywell Controls, Ltd., Toronto 17, Ontario.

Honeywell

First in Control

SINCE 1885

75th YEAR — PIONEERING THE FUTURE

Circle Service No. 20

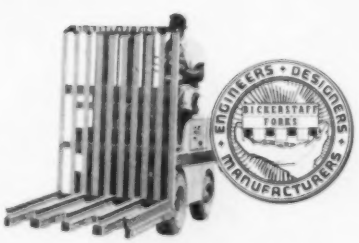
The Proudest Man in the Brick Yard...the day he operates his New Bickerstaff Fork - (with M-M)

Not only will he be proud but he'll handle more brick for you . . . and that's what counts. Let Bickerstaff increase your kiln turnover; move brick in and out of inventory; load directly to truck and freight car without rehandling. Bickerstaff will increase your production and reduce your cost.

• M-M MINIMUM MAINTENANCE ON ALL FORKS

REPRESENTATIVES THROUGHOUT THE U. S. AND CANADA

West Coast Representative - WALTER C. STOLL & SONS
5028 Alhambra Avenue, Los Angeles, California



FORK LIFT TRUCK ATTACHMENTS

BICKERSTAFF, INCORPORATED • P. O. BOX 1178, COLUMBUS, GEORGIA • CYpress 8-0455

Circle Service No. 23

Plant engineering for the ceramic industry from design to owner's key

by SWINDELL-DRESSLER

A complete service in
•PLANT LAYOUT •DESIGN
•CONSTRUCTION SUPERVISION

Based upon specialized experience and knowledge of the industry's requirements, our engineering service is offered typically in three basic phases available to the client separately or collectively as the need dictates.

• PHASE 1 applies where plans have not been developed and there is still uncertainty as to the cost of the proposed plant. This phase includes the preparation of a report bringing together sufficient data and cost estimates to present a clear overall picture of the proposed project. In application, this phase enables the client to make decisions regarding continuance of the project or its abandonment for reasons of cost or other pertinent factors.

• PHASE 2 carriers the project forward through the layout and design stages to completion of finished plans and specifications for the proposed plant and equipment installations.

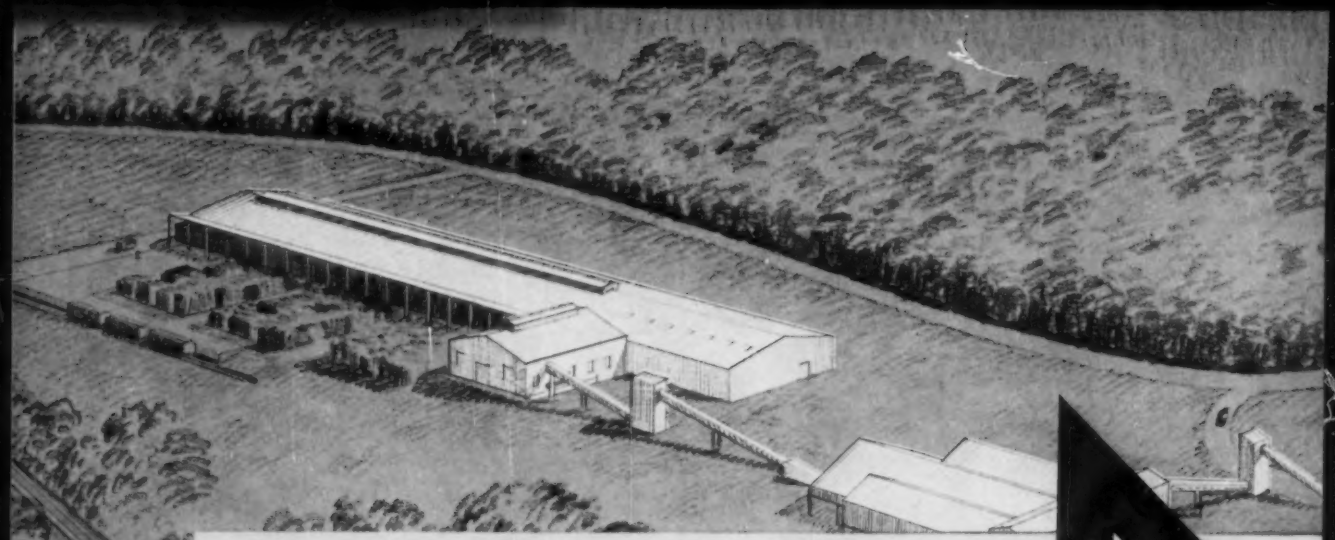
• PHASE 3 may follow upon completion of Phase 2 or be undertaken simultaneously. Phase 3 covers management of the entire program including the securing and evaluation of bids, purchasing, payment of the bills and supervising the performance of the contractors. Thus the client is relieved of all coordination activity, purchasing problems and the numerous other details that are an inherent part of any construction program. Phase 3 is especially valuable to the client lacking in manpower facilities and can be a definite aid in expediting the entire construction program.

Swindell-Dressler Corporation engineers are specialists in the revamping and rehabilitation of existing facilities and equipment for the purpose of improving the product and at the same time reducing labor costs. Operations are carried out at a minimum of expense, with maximum efficiency and without interfering in any way with normal plant operation.

You are invited to discuss with Swindell-Dressler engineers all aspects of our services in relation to your forthcoming production requirements.

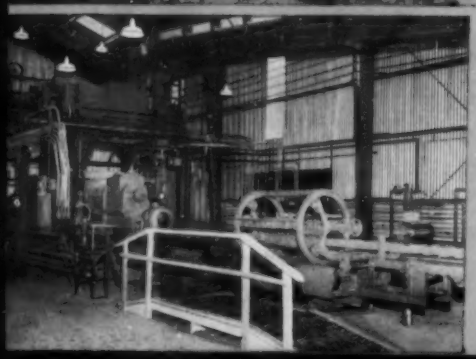
for / STRUCTURAL CLAY PRODUCTS • SEWER PIPE AND DRAIN TILE
CERAMIC FLOOR AND WALL TILE • VITRIFIED SANITARY WARE
PORCELAIN ENAMELED PRODUCTS • ABRASIVES
ELECTRICAL PORCELAIN • CERAMIC SPECIALTIES

Circle Service No. 24



Completed in less than a year from preliminary studies to operating plant, this new Jenkins Brick Company Coosada Division facility near Montgomery, Alabama is a model of sound layout, efficient materials handling and modern drying and firing equipment. The 307 ft Dressler Tunnel Kiln holds 31 cars, each 9 ft 4 in. long by 6 ft 8 in. wide, and is producing 50,000 8 in. face bricks per 24 hrs. It is fed by a Dressler-Robinson Twin Tunnel Dryer 145 ft 6 in. long, holding 15 cars in each tunnel. The kiln features controlled oxidation and cooling zones, and is gas fired.

DESIGN TO OWNER'S KEY



SWINDELL-DRESSLER CORPORATION

Engineers • Constructors • Builders of Dressler Tunnel Kilns and Dryers

PITTSBURGH 30, PA.

The SWINDELL-DRESSLER CORPORATION of Canada, Ltd.,
Ottawa, Canada

Foundry & Machine Co., Inc.

NEW LEXINGTON, OHIO • PHONE FIreside 2-2377

★ ENGINEERS ★ DESIGNERS ★ BUILDERS ★

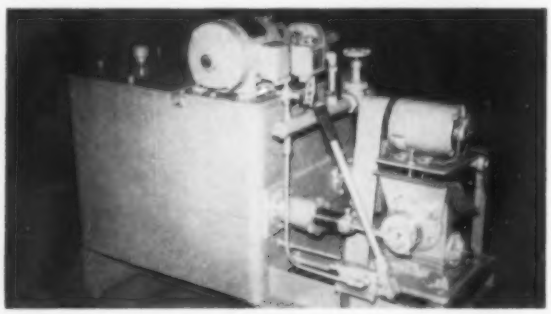
Engineering Service
Special Machines
Metal Fabrication
Sewer Pipe - Deairing Feeders
Transfer Cars

Electrified Vibrating Screens
Sewer Pipe Joint Molds & Equipment
Hydraulic Equipment
Gray Iron Castings
Car Moving Systems

SCREENS

Star "Electrified" Vibrating Screens are available in 3' x 5', 4' x 6' and 5' x 6' sizes arranged in single and multiple widths and single or multiple decks.
Efficient screening of dry or damp materials is assured. Electric vibrators give proper cloth vibration and adaptable electric cloth heating unit will serve steel and stainless steel cloths. Applications in clay, limestone etc., 4 through 40 mesh.
Heating kits and vibrating kits are also available for existing screen installations.

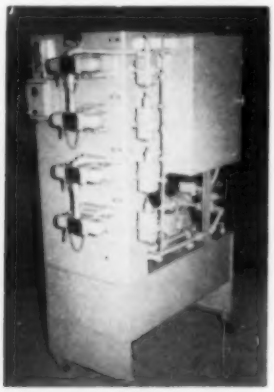
Twin 5' x 6' double deck unit is shown in illustration at left.



Kiln Propeller Hydraulic Power Unit illustrated.

HYDRAULIC KILN PROPELLERS

Star hydraulic kiln propellers are custom designed for individual kiln installations. The Star hydraulic power unit combines the advantages of reciprocating and rotary pump units to make available an accurate and efficient car moving cycle. Manual or solenoid operated valving can be furnished for single acting and double acting hydraulic cylinder arrangements. Safetys, interlocks, and signals can be incorporated to suit customer's requirements.



HYDRAULIC DRIER PROPELLERS

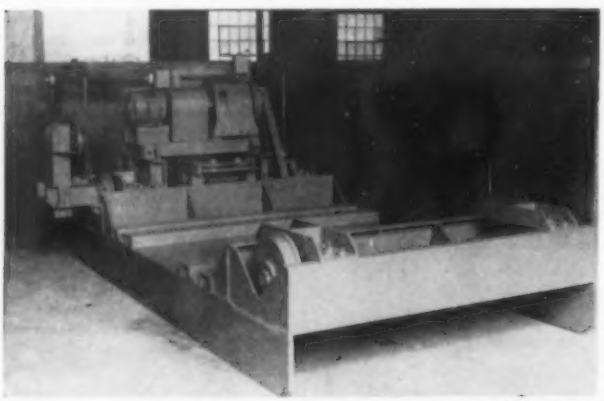
There is a Star hydraulic propeller system available for any tunnel drier installation. Single or multiple tunnels can be arranged using manual or semi-automatic valving systems. Hydraulic power units are equipped with control panels prewired and piped and mounted integral with power unit or located remotely.

Typical prewired and piped power unit and control panel are shown in illustration at left.

Setting Track or Return Car Propellers

The Star hydraulically operated car mover systems are designed for use in any combination of operations that may be required for a particular plant layout.
Propeller units with transfer pull off features, indexed push, automatic car spacing, transfer push on and drier or preheater charging are readily available for any specific installation. Prewired and piped control panels mounted on power unit or arranged separately are provided. Fabricated steel forms designed to facilitate installation can be incorporated into the design.
The sound engineering that is put into the Star propeller units provide for long, trouble free service.

Illustration above shows typical hydraulic power unit with prewired and piped hydraulic & electrical components.



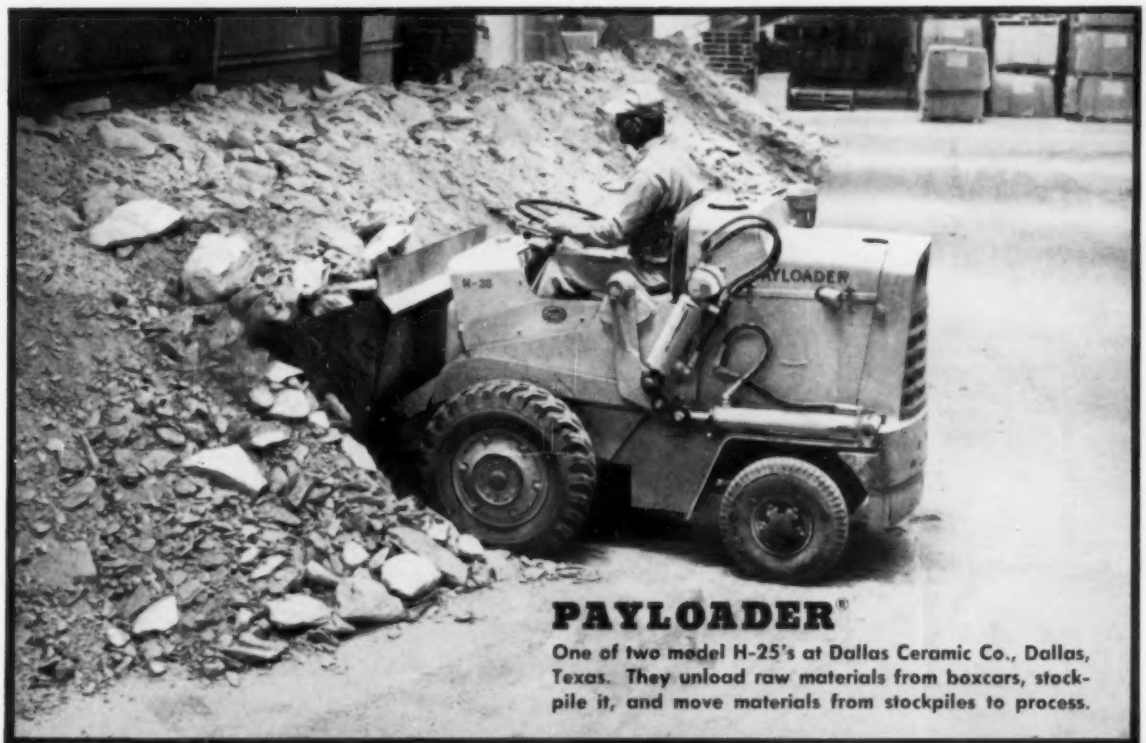
TRANSFER CARS

Star transfer cars are designed and built for hauling kiln cars weighing up to 75,000#. They are available in pitless or pit type models. The propel drive can be arranged for fluid coupling, hydraulic motor or D.C. motor components. For ease of kiln car handling, Star transfers can be furnished with winch and sheave assemblies, telescoping hydraulic car propellers or side cars.

Pitless transfer car with winch, folding outrigger sheave and fluid drive propel arrangement shown.

For further details, specific recommendations, quotations or discussion of equipment requirements, write or call—Star Foundry & Machine Company, New Lexington, Ohio—Phones FI 2-2377 & FI 2-3129.

Circle Service No. 79



PAYLOADER®

One of two model H-25's at Dallas Ceramic Co., Dallas, Texas. They unload raw materials from boxcars, stockpile it, and move materials from stockpiles to process.

What users say about the H-25..

The success of the H-25 "PAYLOADER" can best be gauged by what owners and operators of this tractor-shovel say about it. Here are typical comments from users in foundry, chemical, ceramic, paper, and other industries.

Power and Capacity: "Gives nearly twice the production of our old HA's . . . good digging power and traction, fast lifting power. The most efficient we've ever used — outperforming larger loaders." "Before purchasing the H-25 we had competitive demonstrations that proved its production efficiency over other machines."

Speed and Maneuverability: "Is quicker on the lift, dump and go than the . . . . . — is more compact . . . gets into smaller places easier and faster." "Is doing a top production job. Power-steer and power-shift combination gives us maximum efficiency from both the machine and the operator."

Easy Operation: "The H-25 is a dandy with its power-steer and power-shift — gets full loads without spinning wheels and the operator lasts longer too." "I like the maneuverability and work capacity."

Reliable: "We find they stand up under tough rugged duty with minimum repairs." "The low maintenance on the H-25's has been way superior to any loader previously used. It's a real producer, easy to service." "Gives maximum production output under ideal *or* adverse conditions."

The satisfaction being delivered by the 2500-lb. capacity model H-25 is a reflection of the kind of performance built into *all* "PAYLOADER" units. There are 20 models in 8 capacity ranges — up to 12,000 lbs. operating capacity — to meet your needs, and a nearby HOUGH Distributor to serve you. He has the finest parts and service facilities, backed by factory service personnel to keep your "PAYLOADER" investment profitable.

HOUGH®

THE FRANK G. HOUGH CO.
LIBERTYVILLE, ILLINOIS
SUBSIDIARY — INTERNATIONAL HARVESTER COMPANY

THE FRANK G. HOUGH CO.
753 Sunnyside Ave., Libertyville, Illinois

_____ Send "Industrial Materials Handling the 'PAYLOADER' Way"

Name _____
Title _____
Company _____
Street _____
City _____ State _____

10-A-6

Circle Service No. 26

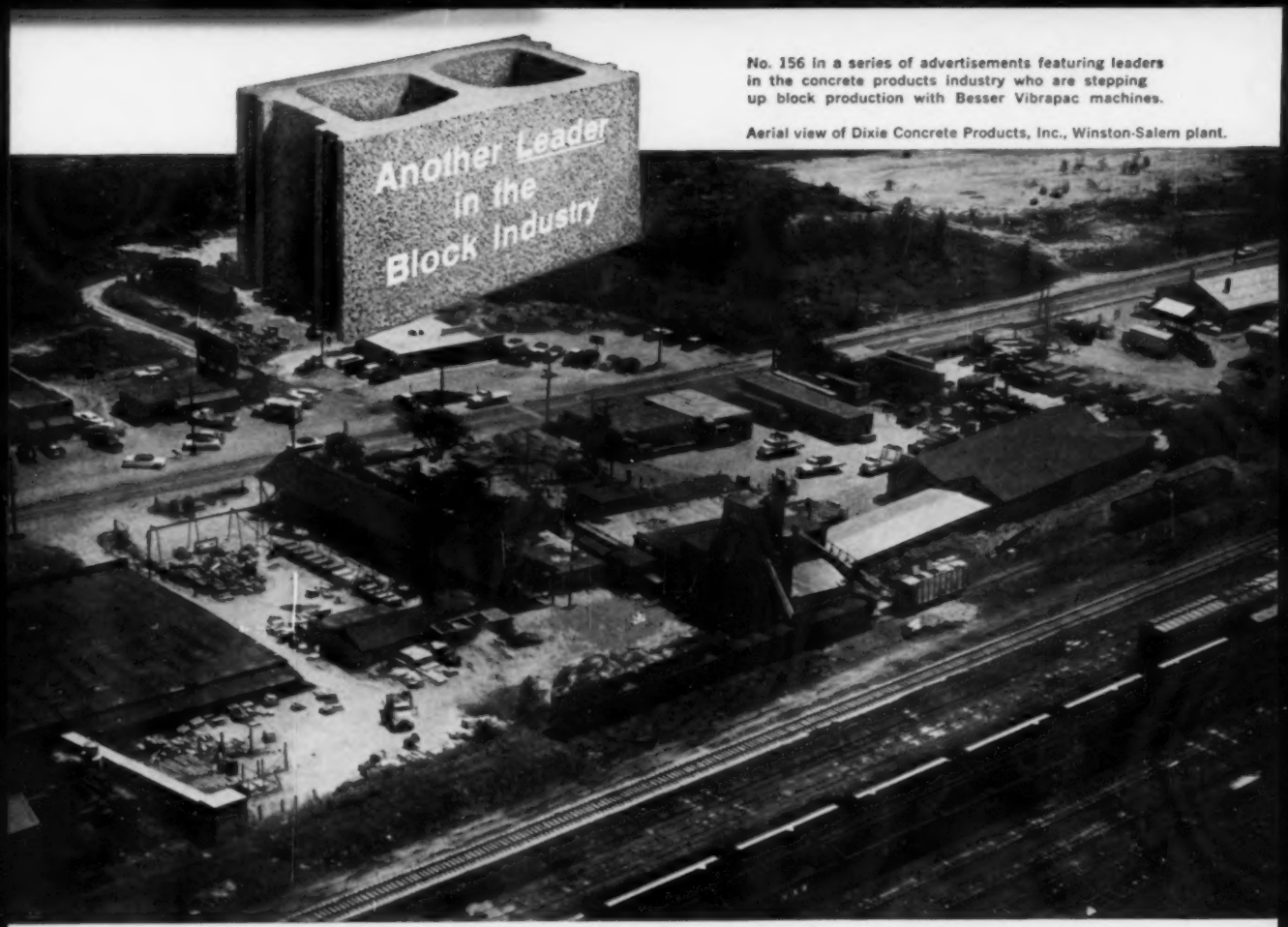
Put the EARNING POWER of a **UNIT** in your pit

This one does a man-sized job — has real muscle and speed to give you the power, capacity and output you require to make a profit from your pit operation. UNIT shovels and draglines are dependable producers, whether digging, loading, stockpiling, or dredging. Low original, operating and maintenance costs, *plus* reliable production, mean you *earn more* with a UNIT from each ton of material moved. ■ Here are some important reasons why UNIT is your most profitable choice for an efficient, cost saving excavator. ■ The exclusive, one-piece cast gear case (there's nothing else like it) keeps machinery in perfect alignment and seals out all dirt and moisture for virtually maintenance-free operation. ■ Straight-in-line mounting of the engine and main machinery contributes to the low operating cost by eliminating many wearing parts, reducing friction loss, and harnessing every bit of horsepower. A worm drive transmits the power smoothly — features an efficient, one-step reduction from engine speed to the main machinery. ■ Disc clutches wear evenly for longer life and their smoother operation reduces load shock on the entire power train. ■ Automatic traction brakes provide an instantaneous traction lock on steep grades . . . are quickly serviced because split brake drums allow linings to slide in or out without completely dismantling brake shoes or drums. ■ Your factory-trained UNIT dealer has full information on the complete line of UNIT ½-yd., ⅝-yd. and ¾-yd. excavators. Call him *now* for detailed specifications and price information.

Circle Service No. 27

Circle Service No. 28 →

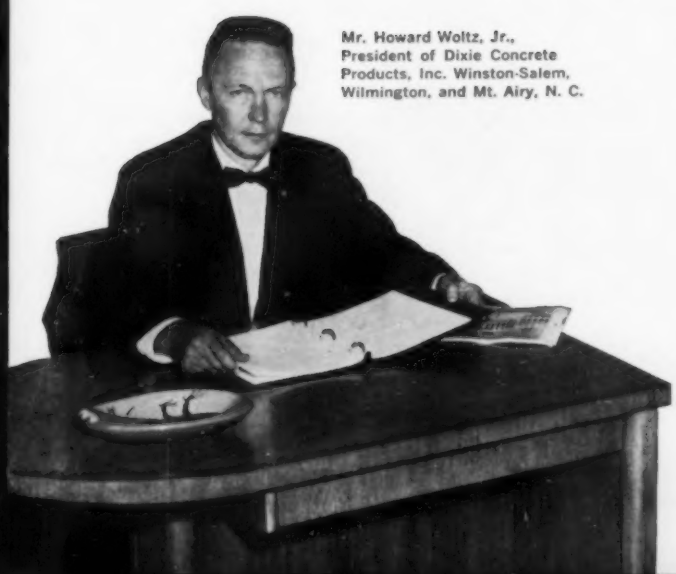
No. 156 in a series of advertisements featuring leaders in the concrete products industry who are stepping up block production with Besser Vibrapac machines.



Aerial view of Dixie Concrete Products, Inc., Winston-Salem plant.

Here, Vibrapac concrete block wins over competition

4,800,000* times a year!



Mr. Howard Woltz, Jr., President of Dixie Concrete Products, Inc. Winston-Salem, Wilmington, and Mt. Airy, N. C.

You've got to go some to operate a successful block plant in the heart of the North Carolina brick country. But no one can deny that Dixie Concrete Products, Inc. is very much in business. It consists of three plants — one each in Winston-Salem, Wilmington, and Mt. Airy, North Carolina.

All these plants are Besser equipped. In the short space of 14 years, the company has gone from a single hand-operated Besser Multi-Mold to four Besser Vibrapacs and four Besser 50-ft. mixers.

Total production today is 4,800,000 high-quality block (in 8" equivalents) per year, including Holiday Hill stone and Omnia floor and roof filler block. Volume like this, in the face of stiff competition from other exterior and interior materials, is a tribute to the beauty of Vibrapac block — and to the accuracy of its dimensions, its proper weight and strength.

Does your present concrete block machine help you stay really competitive? If not, you ought to switch to a Vibrapac. See your Besser representative.

*in 8" block or equivalents

BESSER *Company*
Dept. 139, Alpena, Michigan, U. S. A.
First in Concrete Block Machines

A0-224

Circle Service No. 28

LEASE...RENT...or BUY

Your Material Handling Equipment

Towmotor Corporation and its subsidiary Gerlinger Carrier Company offer you three simple ways to improve your material handling operations . . . realize immediate savings . . . and accomplish this with little cash outlay.

1. You can put Towmotor-Gerlinger material handling equipment—fork lift trucks and material carriers—to work on a continuous round-the-clock basis through the Lease-A-Truck Plan. No down payment—no working capital tied up—just a small monthly charge.
2. You may also *rent* Towmotor-Gerlinger equipment on a short-term basis—as peak or seasonal demands require. You will start lowering handling costs immediately.
3. You can own new Towmotor-Gerlinger equipment by making reasonable monthly payments through the Towmotor-Gerlinger Time Payment Plan. Low interest rates make it easy.

Complete factory supervised maintenance can be included in any of the above plans.

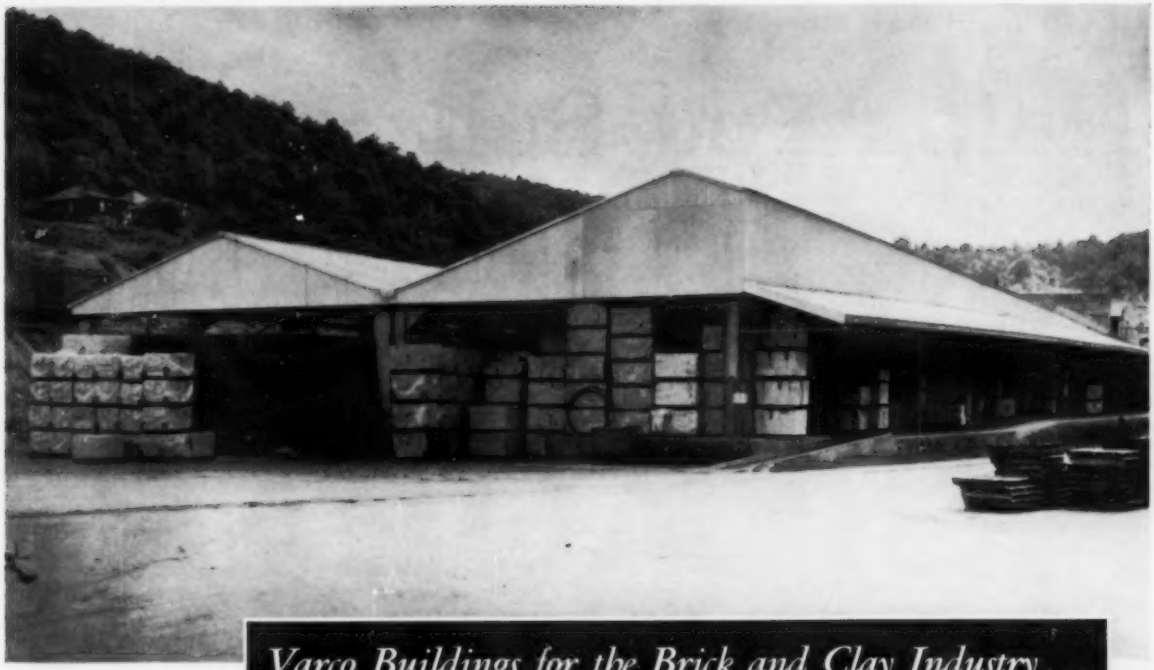
You'll find Towmotor-Gerlinger handling economies consistently pay the small monthly cost many times over. For complete information on any of these profitable, money saving plans, write or contact Towmotor-Gerlinger Rental Division, Towmotor Corporation, Cleveland, Ohio.

TOWMOTOR -GERLINGER
THE ONE-MAN-GANG

FORK LIFT TRUCKS, CARRIERS AND TRACTORS SINCE 1919

Gerlinger Carrier Co. is a subsidiary of Towmotor Corporation

Circle Service No. 29



Varco Buildings for the Brick and Clay Industry . . .

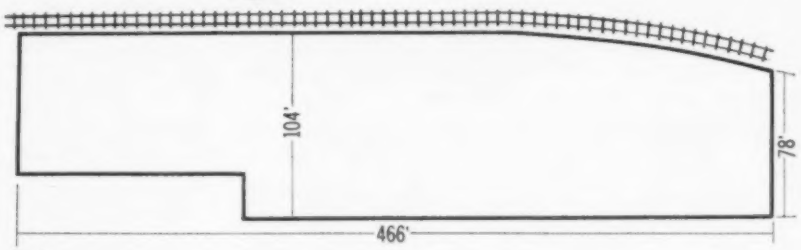
Curved Building Provides NORTH AMERICAN REFRACTORIES with Maximum Storage Space

North American Refractories had a problem at their Curwensville, Pa., plant. They needed a new storage building and they wanted to erect it on an existing area of the plant which was already bordered by a railroad siding. Curvature of the siding made a conventional building impractical, since a structure designed to accommodate the narrowest section of the area would result in a large wasted space at the wider end.

Varco engineers found the solution. They designed a curved building which followed the course of the railroad siding and gave North American maximum storage space in the available area. The building as shown on the diagram, measured 104 feet at the widest point, 78 feet at the small end. Ten different size rigid frames were required in its construction.

You probably won't need a curved building, but Varco can give it to you if you do. We are in business to serve your building needs, whatever they may be. We can design, fabricate and erect any structure required for Brick and Clay plants.

More Varco Buildings are being erected than any other type in your industry. There's a reason why: Varco builds it better . . . for less.



Varco

R. G. VARNER STEEL PRODUCTS, INC. • P. O. BOX 781 • PINE BLUFF, ARKANSAS

Circle Service No. 30

NEWS from Dow Corning

Helps You Sell Brick...

SILANEAL®

keeps brick clean

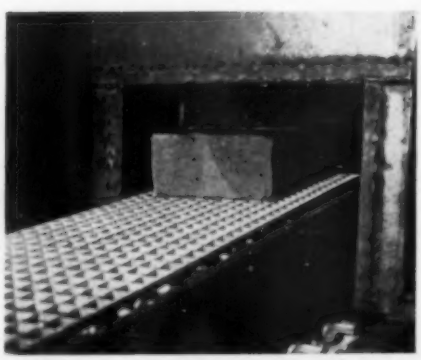
New low cost treatment protects brick from rain and stain

Silaneal® is the sodium siliconate treatment that makes brick water-repellent . . . minimizes efflorescence, keeps dirt on the surface where it rain-washes away. Silaneal keeps brick clean in storage . . . beautiful during and after construction. In short, Silaneal is a new "built-in" selling feature that helps you sell more brick . . . better brick!

Presold by Advertising

An industry-wide promotion carries the Silaneal story to architects, builders, contractors and owners. All important buying influences are reached again and again through a continuing series of 2-page color advertisements in such leading publications as *Architectural Record*, *Progressive Architecture*, *Building Construction Illustrated*.

And to help YOU cash in on the demand created by Silaneal advertising, Dow Corning has prepared the big variety of sales aids described on the facing page. Use them soon.



Silaneal treatment is inexpensive with new, low cost spray equipment specially designed by Dow Corning. Users find that Silaneal returns more than it costs — in reduced yard staining, expanded markets, happier customers! Now available — five minute sound-color film showing how Silaneal is applied with new spray equipment.

SILANEAL®
keeps brick clean

Dow Corning

Keeps Your Brick Sold!

Sales Aids For You

Imprinted Literature

To help you describe the advantages of *your* brick protected with Silaneal — a special 2-color, 4-page brochure . . . and an attractive 2-color envelope enclosure . . . imprinted with your company name at no charge.

Self Mailers

For your own direct mail program — mailing pieces also imprinted with your company name, featuring reprints of the Silaneal ads directed to architects and builders. Free.

"Tell 'n Sell" Stickers

Eye-catching 2-color pressure sensitive stickers on aluminum foil. Stick them to letters, sample brick panels and other promotional materials. Free.

Sound-and-Color Movie

"Better Brick Buildings"—a 14-minute, 16 mm documentary in full color—shows application of Silaneal at brick plant—sells Silaneal benefits! Arrange for a showing now.

Imprinted Sight Savers

"Best silent salesmen in sight"—imprinted on back with Silaneal trademark and your company name. Perfect for handouts and calling cards. Yours at nominal charge.

Technical Information

Dow Corning keeps you fully informed about all new developments in Silaneal processing methods and uses.

Inquiries Forwarded

Dow Corning Silaneal advertising brings valuable inquiries from "hot" prospects. These inquiries are promptly forwarded direct to brick manufacturers using Silaneal.

Get full details about Silaneal from any Dow Corning office. Write or phone today.

CORPORATION MIDLAND, MICHIGAN

SUSTAINING ASSOCIATE SCPI

Circle Service No. 31

SAVINGS up to 20% on CONVEYOR COSTS
12 to 60% GREATER HAULING CAPACITY

. . . possible with

RAY-MAN CONVEYOR BELT

It's a mathematical certainty that a belt can haul bigger loads with 45° idlers than with regular 20° idlers. But the 45° angle between concentrating idlers and bottom roll idlers is too sharp for an ordinary heavy duty conveyor belt. Plies separate, but modern RAY-MAN CONVEYOR BELT licks this problem . . . for all time!

Ray-Man's exclusive flexible construction and built-in stress compensation are guaranteed to take the sharp angle of 45° idlers without ply or cover separation at the hinge line. This opens a whole new era of conveyor design . . . permitting larger loads . . . narrower conveyors . . . assuring longer cover wear . . . lower handling costs!

Ask your R/M representative to show you how Ray-Man Conveyor Belt with 45° idlers can give you the most for your conveyor dollar . . . write for new Bulletin M303, "Ray-Man for 45° Idlers."

RAY-MAN BELT IS BUILT TO TAKE THE EXTRA STRESS OF 45° IDLERS

BIGGER LOADS, LESS SPILLAGE, LESS WEAR ON COVER WITH 45° IDLERS

20° IDLERS REQUIRE WIDER CONVEYOR TO HAUL SAME TONNAGE

ORDINARY PLY BELTS ARE TOO BOARDY TO TAKE 45° IDLERS

RAY-MAN IS GUARANTEED NOT TO PLY-SEPARATE AT 45° ANGLES

RM-1024

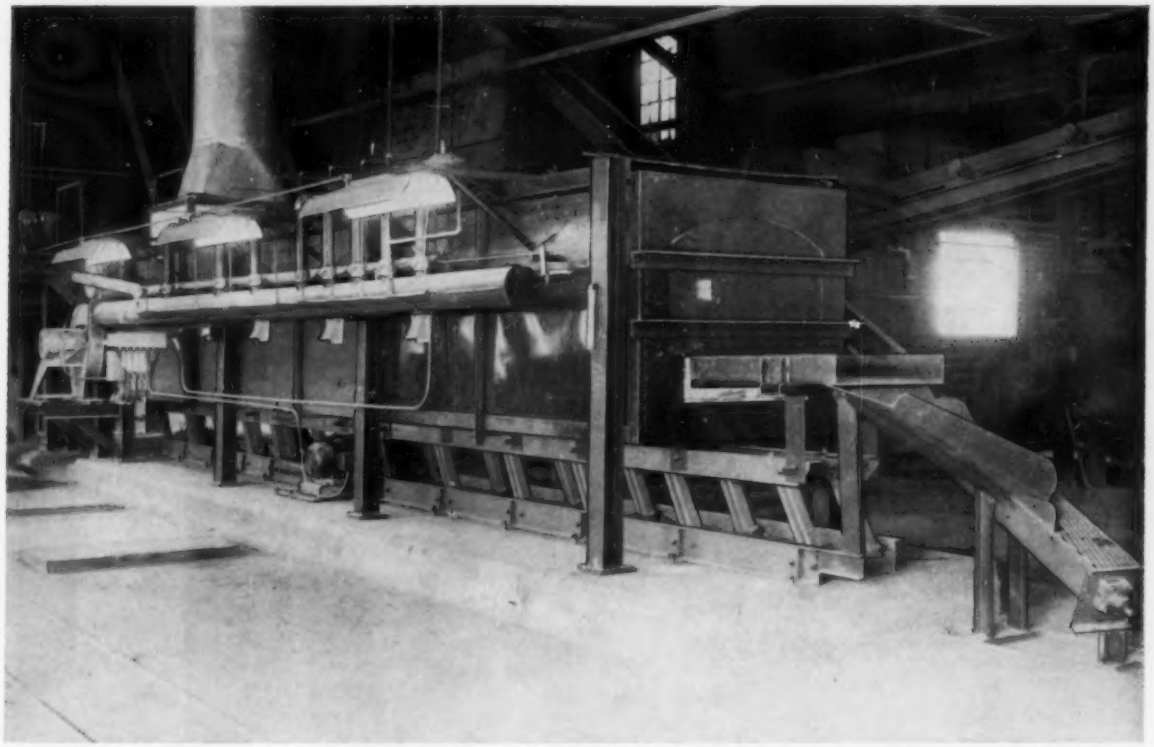
RAYBESTOS-MANHATTAN, INC.

MANHATTAN RUBBER DIVISION, PASSAIC, NEW JERSEY

RM

ENGINEERED RUBBER PRODUCTS ..."MORE USE PER DOLLAR"

Circle Service No. 32



Miller Calcining Furnace installed in West Brothers Brick Co. Washington, D. C. It prefires raw materials and cuts density of brick in both green and fired state.

PROBLEM:

A Low Cost Method For Treating Wet, Sticky Material That Produces High Density Ware With Excessive Shrinkage.

SOLUTION:

Miller Vibrating Hearth Calcining Furnace.

Miller Calcining Furnace fires up to 5 tons of material per hour and produces a variety in grog that will contribute to fine quality wear. It removes liquids, combustibles, carbons, and reduces shrinkage in finished ware. The Miller Vibrating Hearth Calcining Furnace operates on a temperature range from 1200 to 2000 degrees fahrenheit.

Brick produced from material that has been fired in Miller Calcining Furnace are less dense in the green stage, oxidation is aided, and they are free of glass and are of a more uniform size.

Look To Miller For The Finest In

Tunnel Kilns / Kiln Cars
Hammermills / Engineering Services

Miller Equipment Company

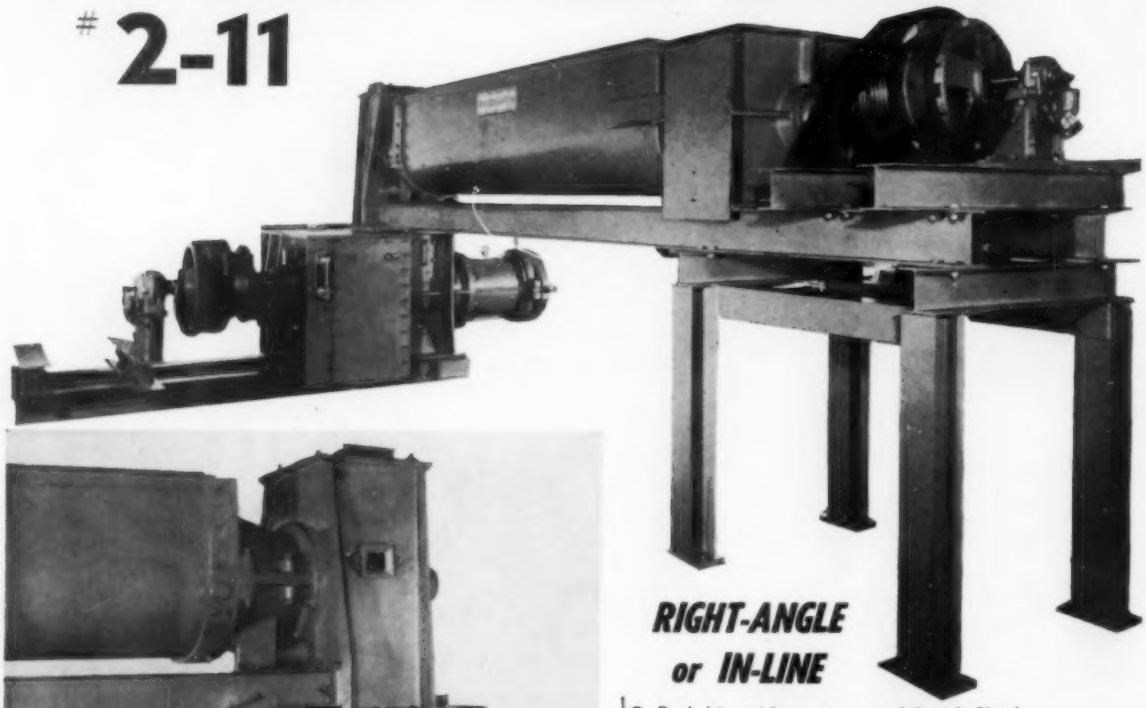
P. O. Box 1566 • Phone ME 3-3541 • Salisbury, N. C.

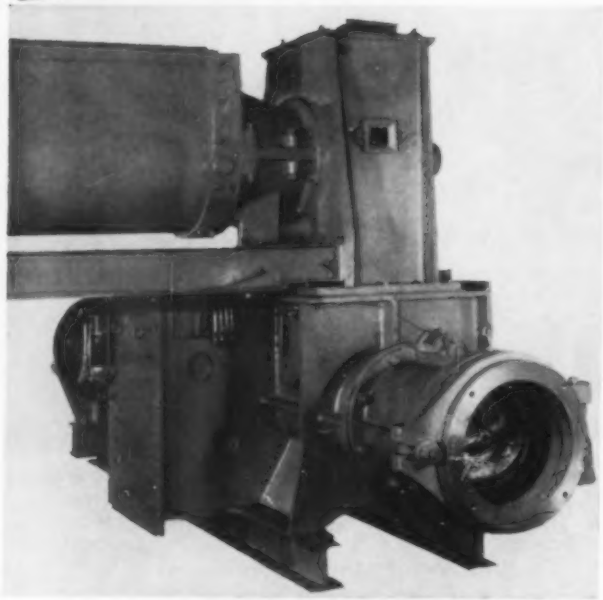
Pacific Agent:
WALTER C. STOLL & SONS
5028 Alhambra Avenue
Los Angeles 32, California

Circle Service No. 33

CHAMBERS AUGER MACHINE

2-11





RIGHT-ANGLE or IN-LINE

- Dual drive with remote control Fawick Clutches.
- Compact one-piece gear frame-vacuum case. Rigid, short, high tensile-strength shafting. Anti-friction bearings throughout.
- 28" x 12' Pug Mill with options of 34" or twin tub pug mill suitable for vacuum pugging without added height requirements.
- Double gear reductions for each unit. High-speed motors and compact, efficient drives. Centralized lubrication.
- Chambers unbreakable, stress-relieved welded steel construction throughout.
- Proven efficient auger & die design. Inquire about our all-steel double-hung die holder arrangement.
- The same quality and attention to the details of design built into the Chambers #12 AC single-drive 18" Auger Machine (below) with capacities up to 300 HP.

12 AC

Write for further details today.

SERVING YOUR INDUSTRY FOR OVER 100 YEARS

CHAMBERS BROTHERS CO. 1857 1960

52nd & Media Streets · PHILADELPHIA 31, PA.

Circle Service No. 34

Business Need Education

It is a most opportune and needed time for everyone in this industry to learn and put into practice every bit of knowledge and help to sell and use clay products.

There is much to be gained by learning more about selling and distribution of clay products. There is certainly a need to diversify the production so that new and better products and more products are available for sale.

Any number of top executives in recent months have made public, statements to the effect that, sales methods and promotion methods are being investigated to find better ways of distributing their products. Research organizations are at work studying customers' buying habits, markets and economic trends. Knowledge from these studies is put into practice and plant objectives changed to meet the ever changing conditions. Even product research is guided by these studies.

Every manufacturer interested in maintaining his business volume, increasing his business and revitalizing his business with new products should absorb every particle of information with the greatest of seriousness.

There are two ways to increase a business according to the experts; First, get a greater share of the available business in the products now being made; next, by adding new products to expand the scope of the business. In the first approach, existing products must be kept modern and changing with the demand. In the second case, the products added must be modern ones and products with a real future.

We must not be satisfied with the usual products, the usual ways to sell them and distribute them—we cannot tolerate status quo. Now is the time—probably most timely since World War II—for this industry to research in new and informed methods and appoaches to sales, research and products.

J. J. Sree

Executive Editor

NEWS OF THE INDUSTRY

Houston: Neill Boldrick, President of Acme Brick Company was guest speaker recently at the Mason Contractors Association of Texas Convention held at the Shamrock Hilton Hotel in Houston. Approximately 100 members, materials and equipment representatives were present for the two day convention. Boldrick stressed the importance of research and promotion of the aesthetic, engineering and economic properties of brick and tile construction to the architects, mason contractors and building owners.

Shovel operators rarely see anything like this near a pit. These girls visited the pit near Sandersville Ga. during the recent gala Kaolin festival. Kaolin has blended well with the local economy to make this Georgia community a "land of mines and money." Pictured at this sprawling Kaolin mine are these three high school seniors who competed for the coveted queen's crown. They are (l-r) Gay Boyd, Marie Brown and Carolyn Sanders.

Georgia Brick Firm Announces Addition

The Georgia-Carolina Brick Co., Augusta, Ga., will add a $1 million facility to its present plant near Augusta, according to a recent announcement by Eugene Long, president of the company.

Long said the new plant is scheduled for completion by spring, 1961 and will increase the production by 36 million brick per year. Construction on the plant will begin immediately. Designed by Harrop Ceramic Service, the plant will initially employ about 50 persons.

Eastern Brick & Tile Plant Now Operating

The new plant of the Eastern Brick & Tile Co., Sumter, S. C., termed as one of the most modern plants in the South, is now operating and producing brick. The plant is equipped to produce 70,000 to 100,000 brick per day from its kiln, although the plant was built basically to produce glazed structural tile.

Representing a $1 million dollar investment, the plant is housed in four buildings with 64,200 square feet of floor space.

Firm Gives 100-Year Guarantee

Michigan Vitrified Tile Co., Corunna, Mich., has begun a new policy of a 100-year guarantee for all its drain tile products, Ross R. Beggs, first vice president and general sales manager, announced recently.

Beggs said that for the first time in the tile business a company was taking the step of guaranteeing its product 100 years in legal certificate form.

D. J. Renkert Named Chairman, Facing Tile Institute

D. J. Renkert, Metropolitan Brick Co., Canton, O., was elected Chairman of the Facing Tile Institute, national association of structural clay facing tile manufacturers, at the institute's annual meeting held recently in Pittsburgh, Pa.

Elected as Vice Chairman of the FTI was John H. Stewart, Jr., Stark Ceramics, Inc., Canton, O. Joseph J. Cermak of the Institute's Washington, D. C. staff, was renamed secretary. The Director of the FTI is Robert C. Turner, who has N. Y. offices.

Wm. A. Driskill

Driskill Joins Pomona Terra-Cotta

William A. Driskill, a native of Lynchburg, Va., and a 1960 graduate of Virginia Polytechnic Institute at Blacksburg, Va., has joined the sales department of Pomona Terra-Cotta Company, Greensboro, N. C., according to an announcement by E. M. Lawrence, vice-president in charge of sales.

Driskill is now in training at Pomona's Greensboro plant. When this is completed, he will represent the company as sales engineer in Northern Virginia, Maryland and Delaware.

Ralph B. Scales

Pine Hall Adds New Chief Engineer To Staff

Ralph B. Scales, of Charleston, S. C., has been appointed Chief Engineer, a new position for Pine Hall Brick & Pipe Co., Winston Salem, N. C. In making the announcement, Flake Steele, President, said Scales' duties will include supervision of quality control, research and development, and general engineering. He will also act as special assistant to Perrin Steele, Vice President in charge of production and engineering.

Pine Hall Brick & Pipe Company operates three manufacturing plants in the South, plus its sales and headquarters office in Winston-Salem.

R. D. Shively

Shively Heads Promotion

Appointment of R. D. Shively as Promotion Manager of Metropolitan Brick, Inc., of 1017 Renkert Building, Canton, Ohio, effective November 1, is announced by Vice President and General Sales Manager Charles S. Erwin.

In addition to public relations, Shively will be responsible for trade shows and exhibits in which Metropolitan participates. His activities will include architectural contacts and encompasses such Metropolitan products as glazed brick, ceramic glazed structural facing tile, face brick, "SCR brick," solar screen units, "SCR building panels" and "SCR acoustile."

SCPRF News Notes

Metropolitan Brick, Inc., a charter member of SCPRF, will send a plant crew to the Research Center in Geneva early in September to fabricate 513 "SCR building panels"* on SCPRF's casting jigs. These panels, for the new Hirsch Clothing Company building under construction at 95th and Western Avenue in Chicago, will be assembled into 4 ft. by 19 ft. "plate girders" by the mason contractor before erecting them in place on the Hirsch job. This is the first major contract job for the "SCR building panel" and Metropolitan is the first licensed fabricator of this new research development.

Bob Taylor, SCPRF Director of Research, has accepted reappointment to the Building Research Advisory Board (BRAB) for a three year term. This Board is a part of the Division of Engineering and Industrial Research of the National Academy of Sciences-National Research Council and its members are appointed by NAS from the ranks of the foremost technologists of industry. Its function is primarily that of a study or advisory group. In the latter capacity, BRAB may advise any department or agency of the Federal Government on technical questions submitted to it.

• • •

The Parker Gray High School of Alexandria, Virginia, has ordered a complete set of "SCR" corner pole"** fittings to be used in its vocational shop in instructing student bricklayers in the use of corner poles. This came about as a result of a "SCR masonry process"*** clinic for bricklaying instructors in the vocational schools in Virginia. SCPRF staff members conducted the one-day clinic held at Virginia State College in June.

After over 10 years there still seems to be some confusion in the minds of many people as to just what "SCR"**** means and how it is used. The term "SCR" is a trademark which is used with all developments of SCPRF registered with the U. S. Patent Office or for which a patent is applied. It is to the structural clay products industry what the familiar "GE" symbol is to General Electric. We are also confident that the Foundation's slogan "New Frontiers With Structural Ceramics" will eventually be as famous in its field as GE's "Progress is Our Most Important Product."

*Reg. T.M., Pat. Pend., SCPRF
**Reg. U.S. Pat off., Pat. Pend., SCPRF
***Reg. T.M., Pat. Pend., SCPRF
****Reg. U.S. Pat. Off., SCPRF

HYSTER
The Hyster Custom Leasing Plan puts industry's newest lift truck line to work for you without capital investment.
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CUSTOM LEASING PLAN
HYSTER LEASING DIVISION • PORTLAND, OREGON

BEFORE YOU RENT, LEASE OR BUY ANY LIFT TRUCK...

Read this Booklet!

This booklet shows you the one best way to finance your material handling fleet. One truck or 50 trucks—one day or 5 years—this Custom Leasing Plan fits your exact requirements.

Now you can get industry's newest lift trucks without capital investment—eliminate maintenance problems, and realistically budget your handling costs.

Get this booklet and full details from your Hyster Dealer, or write . . .

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MARTIN TRAILER DIVISION—Heavy machinery hauling trailers
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HYSTER LEASING DIVISION
P. O. Box 4318 • Portland 8, Oregon

News of the Industry . .

Executive Changes Announced at Cooksville-Laprairie

W. N. Hall, President of Dominion Tar & Chemical Co., has recently announced several changes in the executive status at its subsidiary company, Cooksville-Laprairie Brick Co., Ltd., Toronto. Robert G. Rogers, Vice-president of the company resigned to accept duties elsewhere. He will be replaced by W. R. Spence, who in addition to his duties as a Vice-President of D. T. C. will be the vice-president and general manager of the brick company.

Acme Rebuilding Malvern Plant, Names Richardson Superintendent

Acme Brick Co., Fort Worth, Texas, has recently acquired a new plant superintendent for its Malvern, Ark. plant, which is currently being completely rebuilt. A new Harrop tunnel kiln, a new J. C. Steele machine, a three Jeffrey Waytrol feeders, along with clay sheds and other necessary buildings, are being added. The new superintendent is Russell E. Richardson, who took over his new job on October 1. Richardson has most recently been assistant plant manager of Alton Brick Co.'s Maryland Heights, Mo. plant, where he worked for five years before joining Acme.

Brick & Vermiculite Industries CO-Sponsor Cavity Wall Symposium

A symposium for government architects, engineers and administrators on "Clay Masonry Insulated Cavity Walls" will be sponsored jointly by SCPI and the Vermiculite Institute on Wed., November 9.

Speakers for the symposium are: E. R. Murphey, Managing Director, Vermiculite Institute; Harry C. Plummer, Director, SCPI Engineering & Technology Dept., James Gross, Assistant to Plummer; C. T. Grim, Manager, Architectural & Engineering Dept., Zonolite Co.; William F. Roark, Director, SCPI Mason Relations Dept. and Leslie A. Barron, Manager, Technical Service, Vermiculite Institute.

New Brick Siding Announced By American

"Ambrico", a dramatic new brick siding, has been announced by the American Brick Co., Detroit, Mich. This brick siding is 80% lighter than regular brick, and permits the conversion of frame houses to brick without the expense of additional foundations or costly construction alterations. Ambrico consists of genuine kiln-fired clay brick, standard face size by ½-inch thick. These brick are Perma-bonded to specially formulated panels. The panels are die-cut with exclusive Interlock design to assure a job of lasting beauty and durability. Ambrico possesses an insulation factor greater than 15 inches of solid concrete and is available in a number of colors and styles.

Burns Brick Co. Adding New Products To Lightweight Line

Derry Burns, Burns Brick Co., Macon, Ga., recently announced the addition of Norwegian size and Jumbo Brick to its lightweight line. The new lightweight aggregate is being used in these units, resulting in lighter weight units.

Firm Changes Name

The name of Loveland-Osborne, Inc. clay products manufacturer from Madison, Wisc. has been changed to Osborne, Inc. The company manufactures standard, modular, roman and norman brick along with flue lining and sewer pipe.

National Brick Co. Named Distributor

Appointment of the National Brick Co. of 8865 LaDue Road, St. Louis, Mo., as Distributor for Metropolitan Brick, Inc., of Canton, Ohio, is announced by National President Elmer E. Kempf. Active in the clay products for more than 25 years, National recently expanded its yard facilities by moving to a new location on the Terminal Railroad.

In addition to serving the St. Louis area, National will represent Metropolitan throughout eastern Missouri and in southern Illinois.

Alfred Paolella Named Head of Brick Service

Alfred Paolella, president of Stiles Corp., North Haven, Conn., has been elected president of the Brick Service & Development Ass., Inc. of Conn. Paolella succeeds M. Joseph Kane, president of the Michael Kane Brick Co., Middletown, Conn. who becomes a member of the board of governors.

Re-elected as secretary was George N. Tolman, Jr., general sales manager of Kelsey-Ferguson Brick Co., East Windsor, Conn., while Stephen Donnelly of the Donnelly Brick Co. was re-elected treasurer.

The new association head, who became president of Stiles three years ago, has spent the last 25 years in the building material construction field. In conjunction with David B. Andrews, vice-president of Stiles, who has devoted much of his life to brick manufacture, Paolella is actively directing a new facilities and research program, aimed at quality product improvement and development of a wider range of brick colors and textures.

Obituaries

F. W. Black

F. W. Black, 65, retired superintendent of the Robinson Clay Product Co. plant at Mogadore, Ohio, on Oct. 16 in Akron, O. A native of Ohio, Black joined Robinson in 1913 as a water boy at the Malvern, O. plant. After working in the Malvern plant he was employed at the Mogadore plant and during WWII, he was located at the firm's Pottstown, Pa. plant. In 1946, he returned to Mogadore as superintendent and held that position until his retirement in 1959.

F. E. Mitchell

F. E. Mitchell, 66, sales manager of MacArthur Brick Co., Columbus, O. On September 25 in Columbus.

S. B. Marcum

Stephen B. Marcum, 78, in Richmond, Ky. on Oct. 24. Marcum was co-owner of Corbin Brick Co., Corbin Ky. and a former Mayor of Corbin.

and one for the pot!

added opacifier can make a big difference...too

Any old-time coffee connoisseur will tell you that the extra spoon of coffee—"for the pot" made all the difference in the world in the taste.

Ceramists are finding that it's much like that with opacifiers. That, by adding an extra percentage of TAM opacifier, quality is improved, rejects cut. As to opacifier cost—a reject reduction of only 2% will pay for 50% more opacifier. Any further reduction in rejects piles up savings in a hurry.

Why not follow the experience of other TAM customers who have cut respraying and refiring substantially. Talk it over with your TAM field representative.

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TAM...the complete line SUPERPAX A • SUPERPAX • OPAX • OPAX S • TREOPAX • ZIRCOPAX • Double Silicates

Circle Service No. 35

News of the Industry .

Dic-Kota Clay Plans Selling 40,000 Shares

Dic-Kota Clay Products Co., Dickinson, N. D. recently announced plans for selling 40,000 more shares of stock.

Due to great demands for clay products throughout six states—North and South Dakota, Montana, Wyoming, Nebraska and Minnesota—the company plans to expand and accelerate output. To speed up drying and firing, a pre-heater is to be installed between the dryer and the 250-foot long tunnel kiln.

Plans are being made to manufacture 12-inch pipe to supplement the plant's normal production of six, eight, and 10-inch pipe. Numerous calls for chimney flu lining have also resulted in plans for production of flu liners.

Indiana Releases Clay & Shale Survey Report

A report on Indiana's 30 million dollar a year clay and shale industry has been released by the Indiana Geological Survey. This publication, "Directory of Producers and Consumers of Clay & Shale in Indiana", lists numerous changes that have taken place in the industry in the past 5 years. The directory is published as an aid to the clay and shale industry, and those interested in the industry.

The new publication briefly discusses the characteristics of Indiana's clays, the stratigraphic and geographic distribution of the state's clays and shales, and the production and uses of these resources. Producers and consumers of clay and shale are listed. Various facts about each operation are given, such as the location of the industry, name of the plant manager, the raw materials used, the products produced, firing temperature used, fired color of the product, and plant capacity.

Directory No. 7 is available at 35c per copy (plus 10c mailing fee for single copies) from the Publications Section, Geological Survey, Indiana Department of Conservation, Indiana University, Bloomington, Ind

Bureau of Mines To Study Clays and Shales

Nonrefractory clays and shales will be studied in the laboratory and in the field by the Bureau of Mines during the present fiscal year, according to a report by the Department of the Interior.

The Bureau said that although 80 plants in the Nation now produce lightweight aggregate, local shortages exist and exploration and evaluation of clays and shales suitable for lightweight aggregate will continue. Furthermore, the Bureau said, use of such materials is destined to increase.

In cooperation with mineral-development agencies of various States, the Bureau will evaluate clay deposits for possible use in lightweight aggregate and other products. Simultaneously, the Bureau will survey supply, demand, and marketing potential of bloating-clays and shales, bentonite, and fullers earth in the Southeastern States.

Cooksville-LaPrairie Expanding

Cooksville-Laprairie Brick, Limited, Toronto, Canada has announced the expansion of its facilities to include a new brick making plant on the outskirts of Ottawa. The plant will include two Swindell-Dressler Tunnel kilns complete with dryers and associated equipment. Each kiln will have a capacity of 25 million brick annually, with the first unit being in production in 1961.

Basic Inc. Stock Admitted to Trading

H. P. Eells, Jr., president of Basic Incorporated, has announced that the company's common stock will be admitted to trading on the New York Stock Exchange.

Basic will here be traded under the ticker symbol, BAI. Previously the company's stock was traded on the American Exchange.

In a listing ceremony held at the opening of the Exchange, Basic was represented by Eells, accompanied by H. C. Lee, M. J. Ludwig and W. B. Bishop, vice presidents, and W. B. Wilson, assistant treasurer.

Eells commented that in listing on the New York Stock Exchange the company expects to broaden the market for its shares and make price quotations more accessible throughout the country. A total of 1,234,084 shares of Basic Incorporated stock were listed. The company has over 2,900 common stock owners.

Jacoby Named Alton Brick Sales Manager

Charles R. Jacoby has been named Sales Manager of Alton Brick Co., St. Louis, Mo., replacing J. W. Brookhart. Jacoby was formerly with Vulcan Products Division of Reeves Brothers, Inc.

Charter Granted For La. Brick Co.

Ruffin Brick Co., Inc., Shreveport, La., has been granted a charter of incorporation listing capital stock of 1,000 shares no par value.

Statement Required by the Act of August 24, 1912 as Amended by the Acts of March 3, 1933, and July 2, 1946 (Title 39, United States Code, Section 233) Showing the Ownership, Management and Circulation Of BRICK & CLAY RECORD published monthly at Chicago, Illinois for October 1, 1960.

1. The names and addresses of the publisher, editor, managing editor, and business managers are:

Names	Address
Publisher, John H. Van Deventer	Chicago, Illinois
Executive Editor, J. J. Svec	Westchester, Illinois
Managing Editor, Alan C. Rose	Morton Grove, Illinois
Business Manager, Floyd M. Burdick	Elmhurst, Illinois

2. The owners are: Industrial Publications, Inc., Chicago, Illinois; a subsidiary of Cahners Publishing Co., Inc., Boston, Massachusetts; Maurice P. Driscoll, Oak Park, Illinois; Fred L. Steinhoff, Chicago, Illinois; John H. Van Deventer, Chicago, Illinois; John W. Parshall, Winnetka, Illinois; James M. Lange, Lincolnshire, Illinois; J. J. Svec, Westchester, Illinois; Frank J. Amstadter, Chicago, Illinois.

3. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state) . . . None.

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5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was — 4270.

Sworn to and subscribed before me this 20th day of September, 1960

Maurice P. Driscoll, President

Karl H. Clarke, Notary Public

(Seal)

(My commission expires October 21, 1964)

THE REFRACTORIES INSTITUTE
1961 ANNUAL AWARD CONTEST
FOR
The Best Papers on Refractories

The Factory Operators Committee of The Refractories Institute presents the terms and conditions of the 1961 Annual Award Contest for the best papers on any phase of refractories.

1. Who may participate? All hourly or salaried employees, except officers, of Active and Associate Members of The Refractories Institute are eligible to participate.

2. What are the subjects of the papers? Papers submitted for the contest may pertain to any phase of refractories, such as, but not limited to, raw materials, production methods, testing, research and development, training programs, safety, industrial relations, management techniques, etc.

3. How shall the papers be prepared? The papers should be limited to not more than 2500 words. Three unsigned typewritten copies of each competing paper must be submitted to reach the office of The Refractories Institute, First National Bank Building, Pittsburgh 22, Pa., not later than February 1, 1961. A letter must accompany the manuscripts giving the author's name, company address and title.

4. What are the awards? The award will be an engraved wrist watch, valued at $100, to be given to each of three men who submit the best papers, as selected by the judges. The authors of each of the prize winning papers will receive their awards at the 1961 Factory Operators Meeting. Text of their papers will be printed and distributed to the membership.

5. Who will determine the winners? The judges for the contest will be chosen from our Honorary Associate Members. Their selections will be made without prior knowledge of the names of the authors by having a code number assigned to each paper before submission to the judges.

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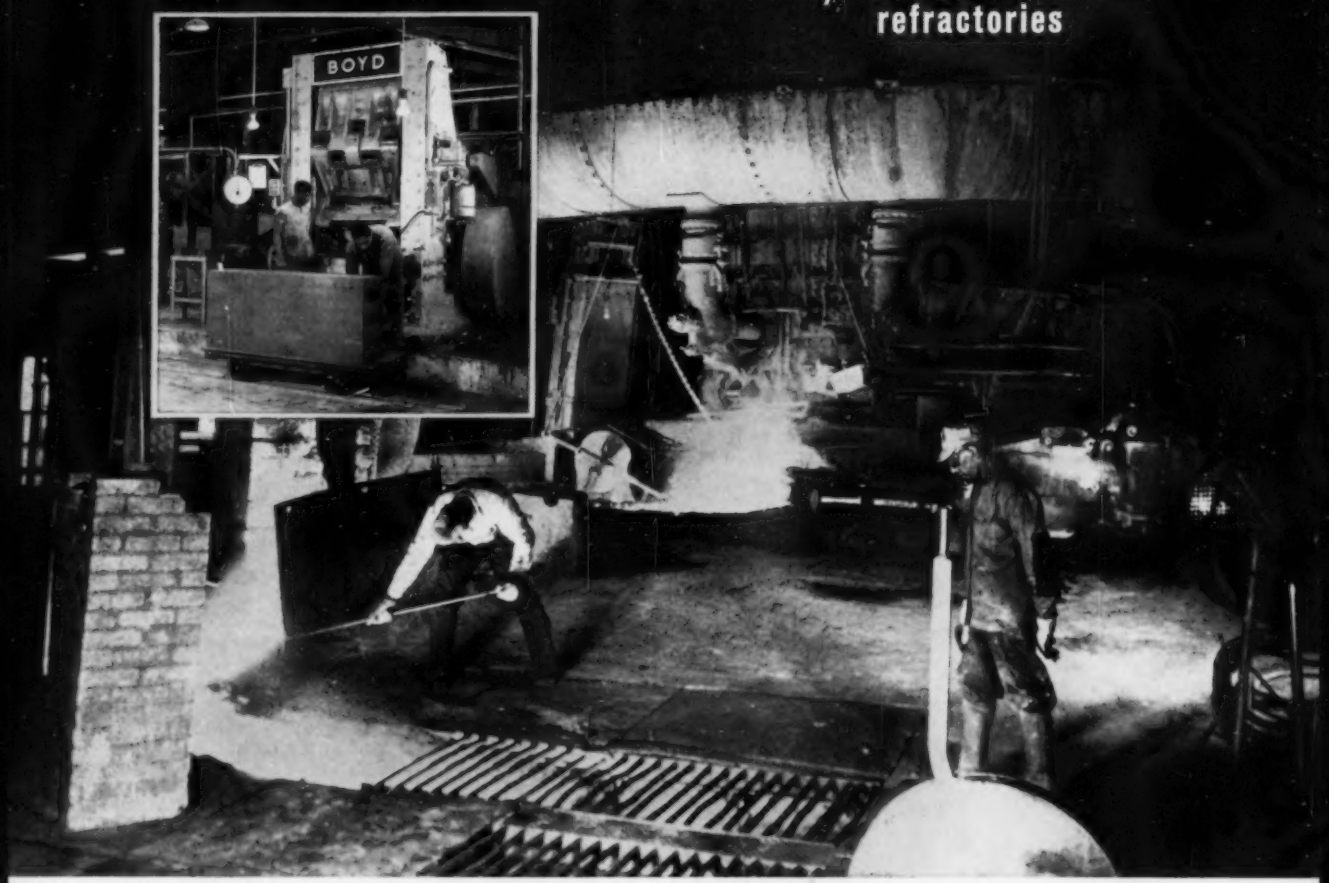

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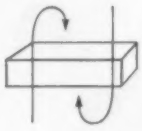

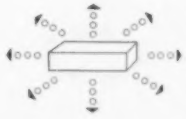

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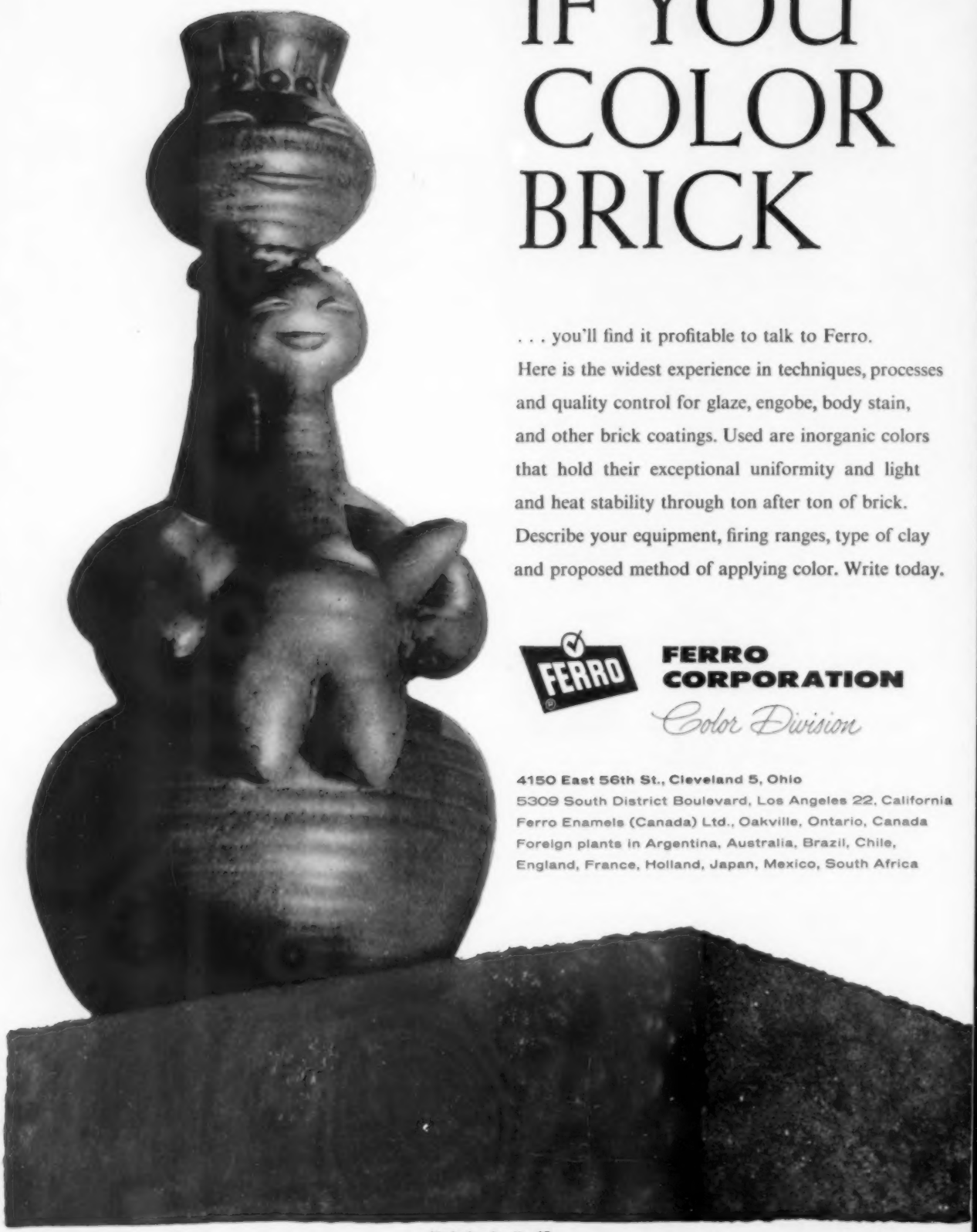

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Aerial view of Triangle Brick Company, N. C. Hwy. #55 in background.

Triangle Brick Company Bulges Brick Capital

By George O. Harrell, N. C. State College

Piedmont North Carolina, heart of the brick industry in the South, is the location of the Triangle Brick Company, a new corporation at Route 3, Durham, North Carolina. Located in the center of a triangle joining Durham, Raleigh and Chapel Hill, the plant is adjacent to the newly formed Research Triangle Park, envisioned by many Tar Heel Leaders to be in the future, one of the leading research centers of the nation.

Approximately 20 million dollars in research facilities have already been built or planned, crediting the wise decision of Triangle Brick's owners. The principal owners of the company are all experienced in the structural clay products field, having been "baptized" by many years of experience at several other North Carolina brick plants. Jim Lalanne, president of Triangle, was formerly associated with Boren Clay Products Company as vice president and sales manager; Theodore Tysinger, vice president and assistant secretary, had varied ceramic engineering experience at both Boren Clay and Cunningham Brick Company; Thurman Holt, vice president and treasurer, was formerly loading and shipping superintendent at Boren. Ralph Strayhorn, a Durham attorney is secretary of the newly formed organization. Brick and Clay Record salutes this new addition to the industry.

Located in a hot-bed of brick production in North Carolina, the newly formed Triangle Brick Company utilized all the modern production planning and cost-cutting techniques at their command in planning and building their new plant near Durham, N. C. Market location was a prime consideration in site selection; and Triangle is ideally located 8 miles from Durham, 13 miles from Chapel Hill, 10 miles from Apex and 20 miles from Raleigh, the state capitol. Nearby is the huge Research Triangle Park, now in its infancy with 4 major companies but expected to grow rapidly in the future.

Next came careful screening of various sites in the area and an ideal

Compact grinding room will handle a production of 150,000 brick per day.

situation resulted. A 70-acre tract was purchased adjoining a major highway, a railroad, and a natural gas line. The plant was built on a 12-acre strip of the tract between the highway and railroad. Triassic shale, the major raw material, is mined adjacent to the plant and 30% surface clay is hauled in from a 5-acre tract 10 miles from the plant. Raw material characteristics received considerable study. Fortunately, Ceramic engineer Tysinger could reach back in history for such information. Complete analysis and firing curves on material a few miles from the plant site were performed by Tysinger in ceramic engineering laboratories at North Carolina State College during his student days there. This information provided sufficient knowledge to go ahead, and further work on the company's material was later performed.

Considerable attention was given to plant layout and component designs to effect economy and speed of construction but without sacrificing quality production. All design and layout engineering was performed by engineer-vice president Tysinger. All construction was handled by Triangle personnel under the direction of Tysinger and Thurman Holt, with the exception of the pipe frame buildings. Design and construction of these were by A. L. Jarrel & Sons, Salisbury, N. C.

Construction was completed in 7 months of winter weather. Ground was broken in late November 1959, kiln brickwork begun in January, and the first carload of brick came out of the kiln about June 17, 1960.

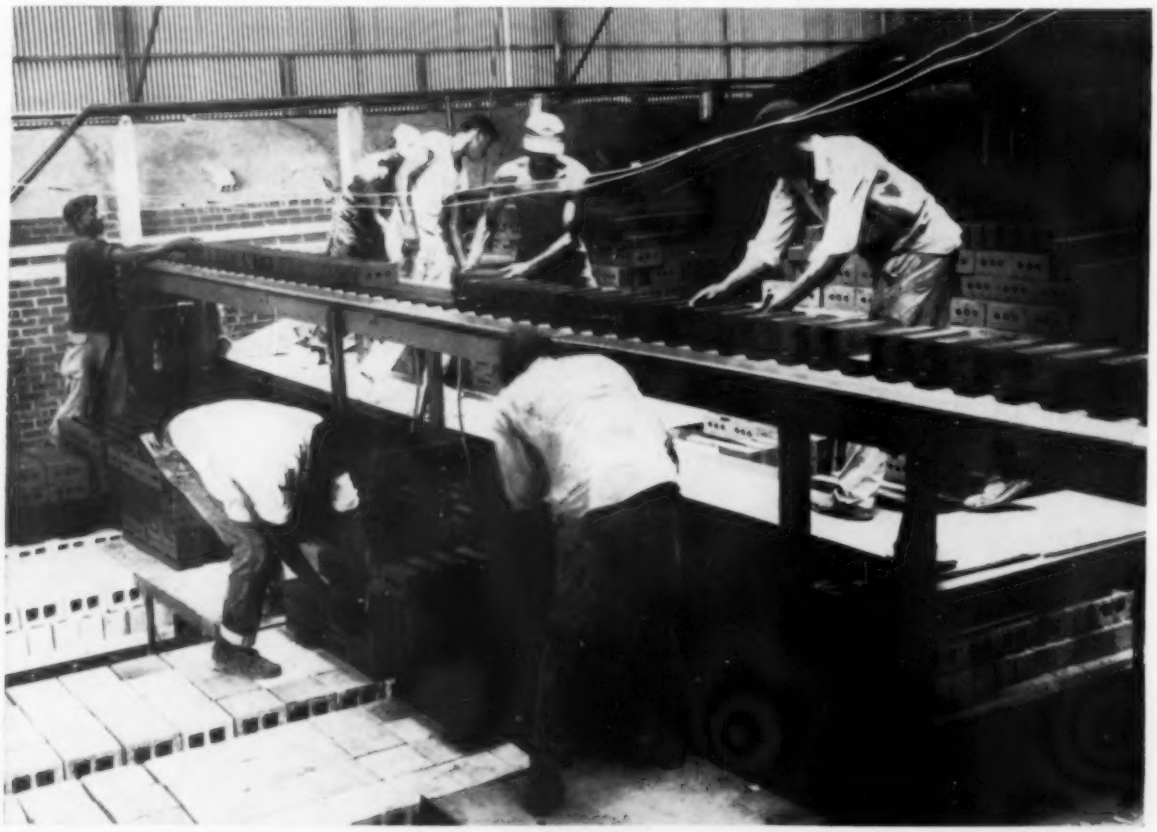
Compact Design

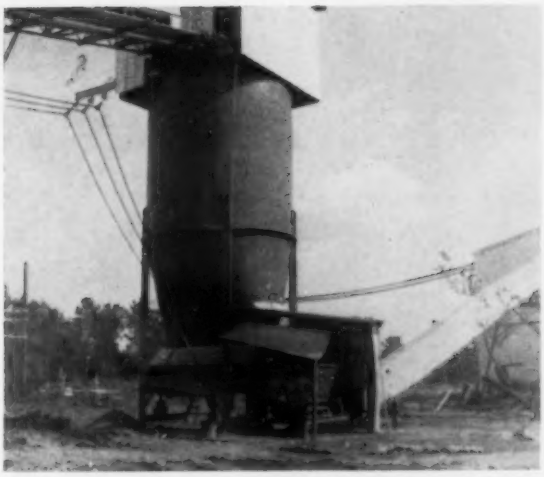
Compact layout design utilizing all available space is a feature of the new plant. The present plant was coordinated with future expansion plans to allow maximum versatility for revisions without disrupting present production facilities. Triangle's grinding room and storage system is an example of the compactness. Raw clay and shale are stored in two buildings with a total dimension of 130′ wide x 140′ long. Complete grinding and screening is accomplished in one side of the storage building in an area 20′ x 100′ long. Engineer Tysinger fully expects the present machinery will handle raw material for 160 M brick per day when the second kiln is built in the future.

Shale surrounding the plant is mined with an International TD-15 tractor and a 6 yard scraper pan. A hydraulic ripper is attached to the 'dozer blade to break up hard strata of the shale. Use of the ripper and scraper pan gives a uniform mixture of small lumps, thus eliminating primary coarse grinding, reports Tysinger. Soft surface clay is mined with the same Allis Chalmers HD 6 front end loader used in the grinding room, and is hauled in the storage shed by dump trucks.

Shale is reclaimed from storage by the front end loader and dumped into a 10′ x 3′ wide Meco apron feeder, capable of holding 5 yards of material in the hopper sides. To eliminate wasteful grinding action, the material

Seven men hack enough for 65,000 brick per day on 2 tracks by utilizing both sides of belt.





Circular storage bin with rectangular discharge holds 70 cu. yds. without bridging.

Triangle owners beam proudly as first car of brick leave kiln. Left to right: Thurman Holt, Jim Lalanne, Theodore Tysinger.

next goes to a 5′ x 10′ Overstrom vibrating step-screen to scalp all material smaller than one inch. Coarse crushing of the tailings is accomplished with a J. C. Steele No. 6A disintegrator which feeds by belt conveyor to two 5′ x 7′ Leahy heated vibrating screens. Fines at —8 mesh from the screens are conveyed to a 10′ diameter x 26′ high round storage bin located between the clay storage shed and the machine room. Fines from the scalping screen are fed to a TR-24 Penna. Crusher double-rotor hammer mill, which delivers material to the same belt feeding the Deister screens. Tailings from the 8-mesh screens are fed back to the Overstrom scalper screen and the cycle repeated.

Feeds by Gravity

The tall circular ground-storage bin holds enough material for 25,000 brick and feeds by gravity on a 3-ft. wide belt conveyor feeder powered by a variable speed drive. A paddle type limit switch prevents overfilling of the bin. To eliminate bridging and clogging of the bin, Triangle designed the bottom with a 2′ wide x 10′ long slot rather than the conventional conical bottom feed spout. A covered belt conveyor takes the material from the feeder into a 40′ x 73′ machine building. All forming equipment is by J. C. Steele. Shale is fed into a Steele 60 FV vacuum pug and extruder, complete with water spray assembly. Electrical interlock controls between the Steele cutter, off-bearing table, extruder and clay feed are centrally located for one-man operation.

An additional 36′ x 40′ long building connects the machine room and kiln building. This space will partly house additional hacking tracks in the future but is presently used for storage, drying, screening, and mixing of colored sand face coatings. The off-bearing conveyor continues into a 51′ x 580′ kiln and dryer building. To get enough production Triangle raised the hacking belt and hack on both sides of the belt. Six courses are stacked on one side, then the cars are moved under the belt by hydraulic pushers where 10 additional courses are added from raised platforms. Six hackers can load enough brick in 7 hours to produce the present production of 65 M brick per day. The cars continue into a closed green storage area where they are finally transferred into a 200′ single tunnel dryer.

In Straight Line

Designed completely by Tysinger, the dryer and kiln is in a straight line with no separation between the dryer and the 340 ft. kiln. At present the 8 brick wide kiln is on an 18 car schedule and produces 65 M brick per day. Triangle anticipates that the unit will reach a production of 75-80 M as more production is required. All hydraulic equipment was supplied by Engineering Associates. These include hacking pushers, two recessed type hydraulic transfer cars equipped with magnetic clutch and brake, and dryer pusher. The dryer pusher is designed so that the dryer is adjacent to the transfer and the car can be pulled from the transfer into the dryer vestibule by the pusher. Two vertical lift doors provide an air lock to prevent dryer-kiln unbalance. Hydraulic cylinders powered by the pusher pump unit operate the lift doors. Three Robinson ventilating fans supply heat to the dryer, recirculate it halfway, and exhaust moisture from the dryer. Fourteen Miller Equipment cross-flo fans circulate air through the brick setting throughout the length of the dryer.

The 136-ft. preheat section of the kiln is equipped with 3 Miller high temperature air cooled cross-flo fans per side. To prevent overburning in the early stages of heating, Triangle chose 4 Hauck Excess-air preheat burners per side, with space for 8 more as production speeds require. Each side of the 84-foot firezone is equipped with 6 Hauck excess-air burners in the cooler portion and 12 Hauck #621 dual-fuel burners in the hotter portion. Temperatures are measured at each burner port with Honeywell platinum-rhodium thermocouples and Simplytrol chromel-alumel couples. All Honeywell measurements are read at a central control panel with a Brown Electronic indi-

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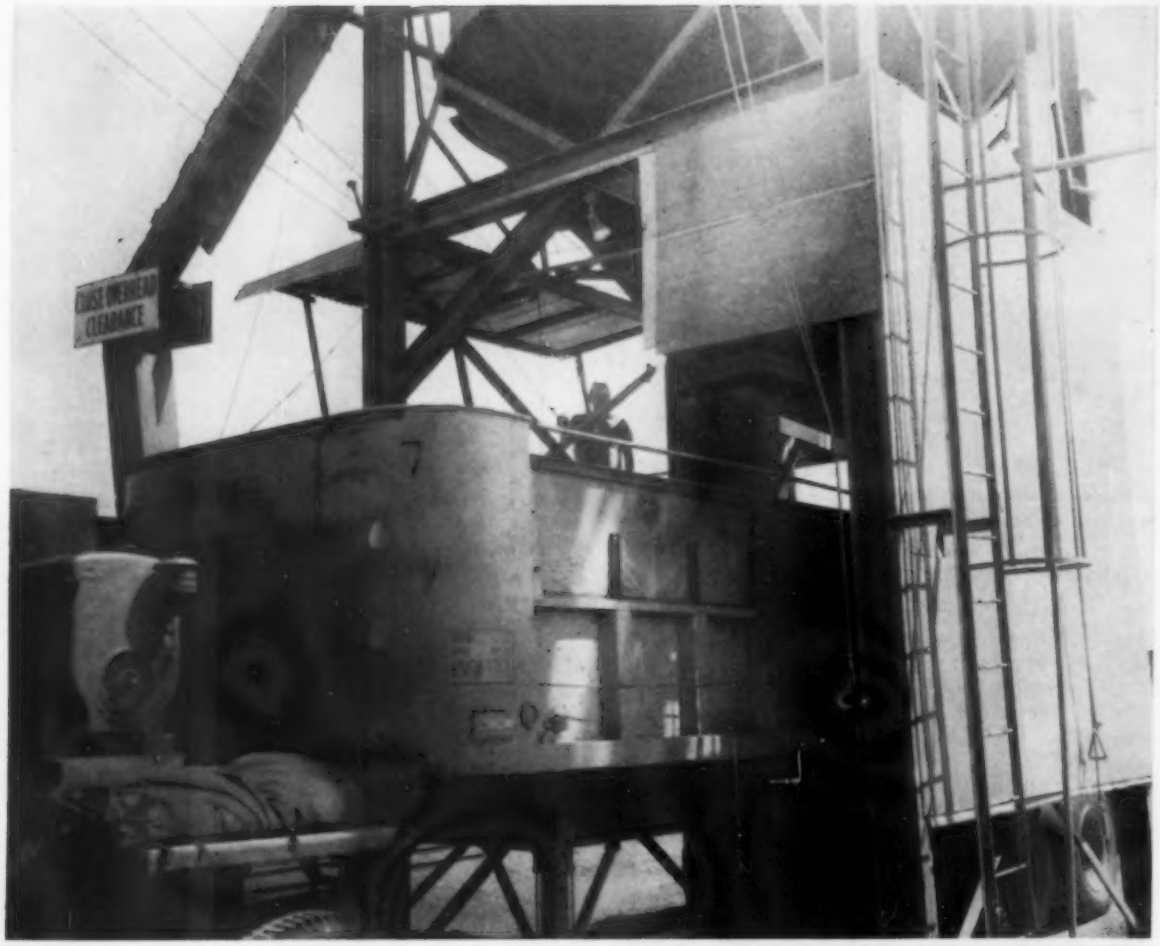

Finished aggregate is sent from the storage silos to this unloading station where it is either transferred onto trucks or into rail cars.

Business is Booming:

Northern L. W. Unable to Meet Demand for Material

Operating 24 hours a day, seven days a week, Northern Lightweight Aggregate, Inc., Cohoes, N.Y. is still unable to meet the demand for its finished material. With a supply of raw material in excess of 55 million tons of shale, the company is making plans to double its present production of 400 tons of aggregate daily. As Brick & Clay Record goes to press, with this story, foundations are being dug and some footings are already being poured for a second 175' x 11 foot rotary kiln along with additional raw material crushing and grinding equipment and finished product crushing and grinding equipment.

Situated nine miles north of Albany, N. Y., the plant is located strategically to metropolitan New York City, as well as the Tri-City area of Albany, Troy and Schenectady, as well as metropolitan Syracuse. Shipments of the company's products are made to these areas as well as of all New England and even as far north as Montreal, Canada.

Worth noting historically, the company's operation is also located on the exact location of a portion of the old Erie Canal; in fact, part of the old canal proper is now being used as part of the sub-terrain storage and conveying system of the present plant. The use of other

A Link-Belt Speeder shovel recovers the blasted shale from the company's pit for delivery to the primary crushing area.

A Caterpillar bulldozer keeps the aggregate piled up for the underground conveying system.

parts of the canal is being contemplated for use in the future plant now under construction. The canal was lined with stone laid in a clay bed and portions of it are in excellent condition even today with a considerable amount of difficult work necessary to remove parts of the old lining.

The shale pit is located about 1000 yards from the actual manufacturing facilities of the company. At this time the floor of the pit is about 55 feet deep and there is no evidence of the supply of raw material ever being exhausted. The shale is quite hard and requires blasting before it can be recovered. 4½-inch holes are drilled to a depth of 24-feet with an auger drill. The shale is then shot and a 1-yard power shovel then recovers the material. Two Diesel fuel powered trucks equipped with 15-ton bodies have just been purchased for the haul from the pit to the crushing area.

The material as received from the pit is dumped into a hopper and fed by an apron feeder to an impactor which reduces the limp size to sizes smaller than 3½ inches. Scalper screens then removes all the material larger than ½-inch in size. This material is sent to a 1700-ton raw material silo. The fines are separated and stored on a separate stockpile and when a sufficient amount has accumulated, they are burned separately. Some of the fines have been used as road material before the actual bloating.

The new crushing plant now under construction will be essentially the same as the present plant with but one exception. In the future operation, an additional screening will be provided for, with all material larger than 2½-inches being returned to the primary crusher for further reduction.

Fines, as mentioned before, are stockpiled until a sufficient quantity has accumulated to warrant separate burning. With the fines, the load in the kiln varies, thus separate firing conditions must be maintained. If the fines are left in the original raw material batches, the end product will contain too many fines. Also, firing the fines with the regular size raw material is uneconomical.

A belt conveyor which also serves as a feeder is located under the raw material storage bin and feeds the 200-foot rotary kiln. The first 150-feet of the kiln is 9 feet in diameter, with the remaining 50 feet 10 feet in diameter. The kiln makes about 1½ rpm, with the exact measurement being 1 revolution every 42 seconds. Approximately 80 minutes is required for the material to travel the length of the kiln and emerge as a bloated material. Approximate bloating temperature of the shale is 2200°F. From 6000 to 6200 gallons of fuel oil are used every twenty-four hours to bloat 400 tons (app. 800 yards) of shale.

Continued on page 69

The entire plant is serviced by Barber-Green conveyors, from raw material conveyance up through conveyance of the finished aggregate as shown here.

The 200-foot rotary kiln is the heart of the company's operation. A second kiln is currently being erected adjacent to this first kiln.

Clay Block Production Requires Material Control

by J. E. Rankin

General Manager
Statesville Brick Co.
Statesville, N. C.*

An article in BRICK AND CLAY RECORD a couple of years ago by Henry Burns started management thinking back eight or nine years when Statesville Brick Company hired a promising young graduate and put him to work experimenting with a $100 single mold block machine. At that time, we were trying to use Haydite with clay as a binder. Even though we never got any promising results, we kept trying for about a year.

In the meantime, Brick and Tile Service took the project over; and at State College, under the direction of Dr. W. C. Bell, it turned into a combination project of sintering different materials from brick plants in North Carolina; and then making a ceramic block from these materials, plus clay or shale as a binder, as the case might be.

About two years ago, we started a large lightweight ceramic building unit project at the Engineering Experiment Station at State College, under Dr. R. F Stoops ably assisted by Roy Moffitt; and early last spring we decided we had gotten to the place where it was time that we graduated from the small laboratory type forming machine, dryers and kilns into something more plant-like in size.

A grinding room was assembled out of old discarded equipment, mostly. However, we bought a new Columbia ribbon mixer, skip hoist and a two-block mold automatic machine. We also bought a second-hand lift truck and twenty conventional seventy-two block racks.

For drying, we have a 40 H.P. gas-fired automatic boiler, and we built two dry steam heated kilns that would hold fourteen racks each. With this equipment, we set out to verify the results we had gotten at State. Drying the block in as much heat as we could get in the dryers (approximately 130°F.), then setting them on some tunnel kiln cars on which we had built super-structures. Flooring was with bone brick supported on "A" block.

In the laboratory, it looked as though we would be firing at too low a temperature on our regular brick schedule to properly mature the body, so we more or less tailor-made a body with aggregates and additives that could fire at a lower temperature. However, it was found as soon as the first cars of block, never more than four at a time, went through the kiln, that there was a big jump in temperature as the block went by the burners and that it was necessary to cut the burners back as the cars of block went by, in order not to overfire them.

Beginners' Luck

Beginners' luck along with the knowledge gained at State College, plus a lot of helpful ideas and experiment results by Prof. Gil Robinson, with the sanction of the Zonolite Company, paid off on the first car of block that we sent through the brick kiln. However, all of the block that we have fired since then have not come out as well, due to the fact that we have tried some fifty different batch mixes, varying the compositions with different types and gradations of aggregates and combinations of these. There were varying amounts of binder and, also, varying amounts of Additive B, which we have used in our pilot plant as an organic binder. Also included were different screen sizings of the clay binder.

We have had to set the dry block and run them through our drier with brick. In encountering this moist condition, they re-absorb a lot of moisture and lose most of the original dry strength. Even with this condition existing, we have not had excessive breakage. Most of our breakage was due to irregular car top setting surfaces. In the kiln which we are starting, we plan to use perforated block of such size and uniformity that we will have a level surface on which to set the block.

If it had not been for the patience and determination of the management, which should by rights have given out during the almost two years of laboratory experimenting, he would not have had the satisfaction of seeing the fruits of the experiment, or the fun of trying to figure out the best method of handling the ware and drying and firing it.

All the time the experimental work was going on, the goal seemed just around the corner; but it turned out to be an awfully long long way to the corner. We had set a goal of a certain texture along with the necessary physical requirements, and these seemed to be at odds with one another. We found particle sizing, and gradation of both aggregate and clay binder, to be very important. Other equally important factors are percent of water and percent of clay binder to percent of aggregate. These things, along with the forming machine, have to all be on the nose or the results will be bad.

As for materials, we have used vermiculite, low and high fired grog, ground brick bats, expanded shale, sintered clay, rock in the form of granite, and many others, both singly and in combination. For binders, we have used clays, shales, and combinations of these.

Our experiences so far has been with an 8″ x 16″ unit 5″ in height. We stuck to this due to the fact that we needed comparative results. However, we are going to make both 4″ and 6″ units 16″ long as soon as we get molds.

*Presented at Sixth Annual Plant Operators Forum, Clemson, S. C., Oct. 16, 1960.

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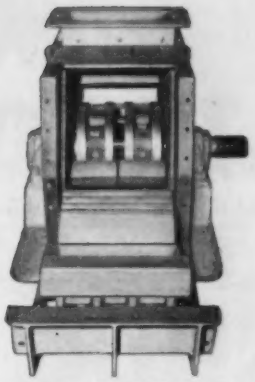

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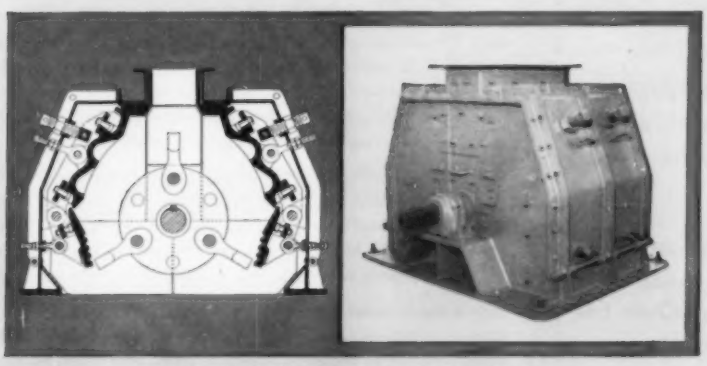

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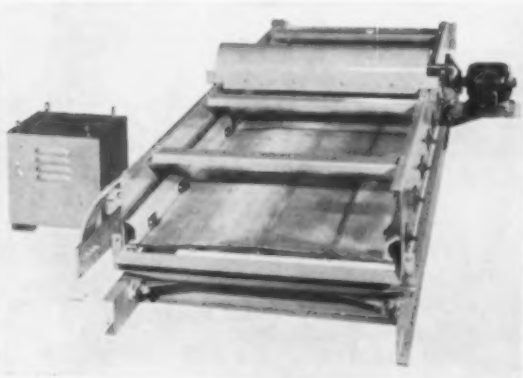

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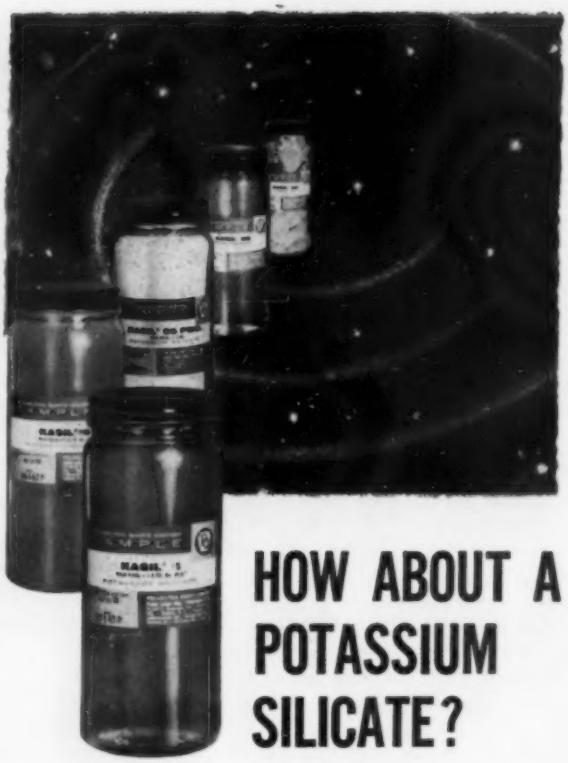

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REFRACTORINESS . . . Potassium silicates soften and flow at a higher temperature than corresponding sodium silicates even at the same alkali to silica mol ratio. Hence, Kasils are advantageous as high temperature binders of various types.

We shall be glad to supply additional information that may be helpful for your specific problem. Request a copy of bulletin "Kasil Potassium Silicates, Properties & Uses".

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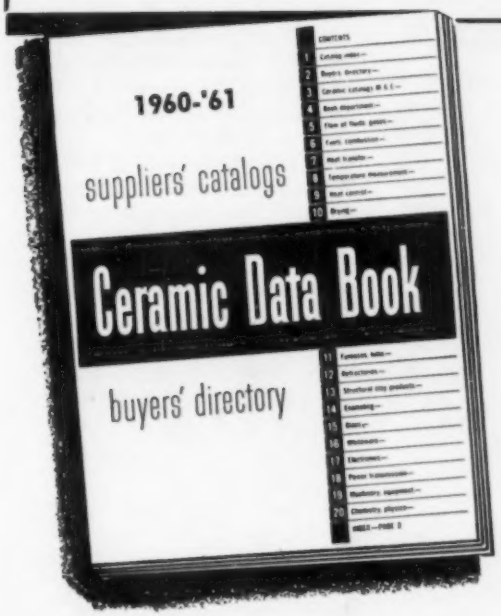
1960-'61 EDITION



Completely Revised

For the first time, the 1960-'61 CERAMIC DATA BOOK will group all advertisers' catalog pages and editorial-technical material on the same basic subjects into 9 distinct sections—materials and supplies; batch and batch preparation; forming; drying and annealing; burning, smelting, melting and fuels; control instruments and heat data; power transmission, including fans, blowers, compressors, and pumps; material handling, packaging and shipping; engineering handbook. You'll want a copy for every department in your plant.

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Ceramic Data Book

5 South Wabash Avenue **Chicago 3, Illinois**

SCPI Stresses Industry Cooperation at Convention

But there'll be fun in the sun also,
as 700 manufacturers assemble in Hollywood, Fla.

Over 700 clay products manufacturers, dealers, distributors and suppliers from all over the United States and Canada are gathering at the Diplomat Hotel, Hollywood, Florida on November 14-16 for the annual convention of the Structural Clay Products Institute.

The 1960's and beyond come in for some close examination as brick and tile makers settle down to examine the coming construction boom and learn how total industry cooperation can insure the clay products industry's rightful share in that market. Looking at the current market, the convention will find residential building a little off and non-residential doing well. How to adapt to this market and what can be done to stimulate it will be important agenda items.

Lots of Sports

But the SCPI annual convention won't be all serious work either, particularly for the wives who will be accompanying their husbands to the sun-filled Florida shore. Four swimming pools and a host of sunshine sports are awaiting them. For those ladies who play golf (and there seem to be a lot of them these days) there will be a splendid 18-hole tournament golf course. In addition, there are tennis, archery and skeet shooting. For those who just want to relax, there are wonderful "loafing" facilities, too. And just a short 18 miles away is the storied Miami Beach with its nationally famous shops.

Masonry Represented

Convention delegates will hear from SCPI's close working partners on the masonry team as representatives of the bricklayers and mason contractors appear on the platform, SCPI Board Chairman Douglas Whitlock reports. Appearing for the first time as President Emeritus will be Harry C. Bates of the Bricklayers, Masons & Plasterers International Union. BM & PIU President John J. Murphy will also address the group. Mason Contractors Association of America President Stephen D. Raimo will speak on the growing cooperation between his group and SCPI.

A distinguished guest from the business world will appear when Arthur H. Motley, President of the United States Chamber of Commerce speaks to the delegates.

Four noted architects will be on the platform with messages for the clay products industry: Raymond D. Caravaty, Rensselaer Polythechnic Institute; Roger Montgomery, Washington University; Walter T. Rolfe, Houston, Texas and Louis Rossetti, Detroit.

Clay industry men on the speaker's list include SCPRF Director Robert B. Taylor, H. B. Foster, Brick & Tile Service, Inc., and Robert W. Harrington, Clay Brick & Tile Association.

Home builder Edward R. Carr, a past president of the National Association of Home Builders is scheduled to speak as well as Robert R. Denny, Henry J. Kaufman & Associates advertising and public relations firm. Lewis E. Berry of the Office of Civil and Defense Mobilization will also talk to the convention.

Whitlock to Speak

SCPI Board Chairman Douglas Whitlock will give his traditional convention summary at the end of the meetings.

A special presentation of SCPI's 1960-61 promotional program will be given by the Promotion Department with the intriguing billing of "The Right Combination." There is no more advance information than this title, but, judging from past SCPI

Robert Taylor

Jos. Cermak

Neil Boldrick

conventions, this will be a session delegates will not want to miss on Tuesday morning.

The regular business of every convention—the election of new officers and boards—will be held. The Board of Directors of SCPI and the Board of Management of the Structural Clay Products Research Foundation will meet for elections for 1960-61. In addition, the SCPRF will hold a membership meeting, too.

Star-studded entertainment instead of long-winded speeches at the SCPI banquets has become a most pleasant SCPI tradition. This tradition continues wonderfully with a full-length night club review headlined by Johnny Carson, one of television's bright stars. In addition to comic Carson, there will be songs by Tina Robbins, popular supper club and recording star and The Archers, the young dance team which delighted the 1958 SCPI convention at Houston. And, important to any banquet, will be the gourmet dinner specially prepared for the industry and its guests.

View of beautiful convention hall.

Membership

Convincing a manufacturer that there is more strength in everyone working together against the competition than in each man fighting, the battle ought to be an easy thing. But that's not always the case in SCPI as in any other organization. Sometimes it takes that "special effort" to overcome a man's natural skepticism. SCPI found that "special effort" two years ago at its convention in Houston, Texas when it started the "2 for 1 Club." The results to date have been excellent.

The "secret" of the 2 for 1 Club has been its basic approach. It takes a man who is already an SCPI member, a man who knows and is sold on its benefits, to sell membership to a non-member. All of the brochures and fancy printed messages can't compare to the sincere, face-to-face approach of the SCPI member telling the advantages of cooperative effort. In addition, he also tells the non-member how much stronger the organization will be with this added shoulder to the wheel.

Now with nearly two dozen members, each of whom has been responsible for the addition of one or more members to SCPI, the 2 for 1 Club looks forward to another year of membership effort. They want more members in 2 for 1 and more members in SCPI. The two things go hand in hand.

Particularly, as the industry faces the challenge of the 1960's, this will be a time when the strength and resources of the *entire* industry will be needed to successfully face up to the competition. In our American system of free enterprise, there will be many building materials competitors out in the market place fighting for their share of the construction dollar. The construction boom will be there, but the clay products industry will have to unite and fight this competition to get it. Curiously, some of this competition did not exist just a few years ago. This is where combined, cooperative effort comes in. This is where SCPI tackles the job. That's why membership is so important this year and why the 2 for 1 Club will continue to grow.

Please turn page

Paul Belden Jr.

Doug Whitlock

Edward Carr

Continued from page 53

Promotion

SCPI's 1960-61 promotional program, which will be officially launched at the convention, is the result of much planning, not only on the part of SCPI's Promotion Committee and Promotion Department, but also after many consultations with men in various phases of the industry.

Basing its approach on two levels, the SCPI promotional program is directed to both the residential and non-residential markets. High points of the non-residential market approach are esthetics, cost, structural strength and flexibility and workmanship and productivity. Here the brick and tile industry talks to the architect, the mason contractor, the bricklayer and, with special emphasis this year, school boards.

In the residential field, SCPI's promotional efforts are directed toward the three "B's"—the builder, the buyer and the banker. To the *home builder* SCPI will talk about costs—not only initial costs, but maintenance costs. The home builder will also be hearing of SCPI's program of "a wall for every purpose."

To the *buyer* or the consumer (as he is often called), the industry will be saying that brick homes make it easier to qualify as a home buyer because of little or no maintenance costs, freeing more of his money for mortgage payments. The esthetic side of brick won't be neglected as the industry says, "There's beauty in brick."

To the *banker* (and that includes all financial people) SCPI will say that he can qualify more home owners with brick homes and thus make more interest bearing money available to him.

But, as Promotion Director Jack Clark says, "No matter how good a program is, it is worthless unless it reaches the audience for whom it is intended." In other words, communications is an important part of the SCPI promotion program. Briefly, the communications being used in the 1960-61 program are:

1. Advertising.
2. Publications.
3. Informational meetings.

The advertising program will be unveiled at the Tuesday session of the convention.

SCPI's publications have consistently won prizes in every kind of competition sponsored by such groups as The Producers' Council, the American Institute of Architects and others. These prizes show that they are getting through with the message for the right audience. 1960-61 will see several important and new publications join the catalog of literature which has been developed for industry-wide use in carrying the brick and tile message.

Informational meetings have been developed to reach every possible audience on the construction scene. Tailored to meet the needs of each audience, these meetings will carry the clay products message to architects, financial institutions, the industry's own sales force, home builders, mason contractors and bricklayers. Schedules and dates will be released soon.

All of these facets of the promotional program which add up to a great pre-selling effort for the industry's customers will be detailed in the Tuesday session, "The Combination." Don't miss it.

Research

The research efforts of the clay products industry, centered in the Structural Clay Products Research Foundation, are witness to the progressive attitude of the nation's brick and tile manufacturers. In the short period of eleven years, the program of the SCPRF has proved that an industry united toward a common goal can keep that industry fresh and strong and competitive.

Under the direction of Robert B. Taylor, the research laboratories have brought significant changes on the construction scene. When it began, the SCPRF set up three objectives:

1. End-use research.
2. Development of new products for present and new markets.
3. Improved plant techniques and improved clay bodies.

Emphasis has varied among the three points during the past eleven years, but the basic approach is still valid today.

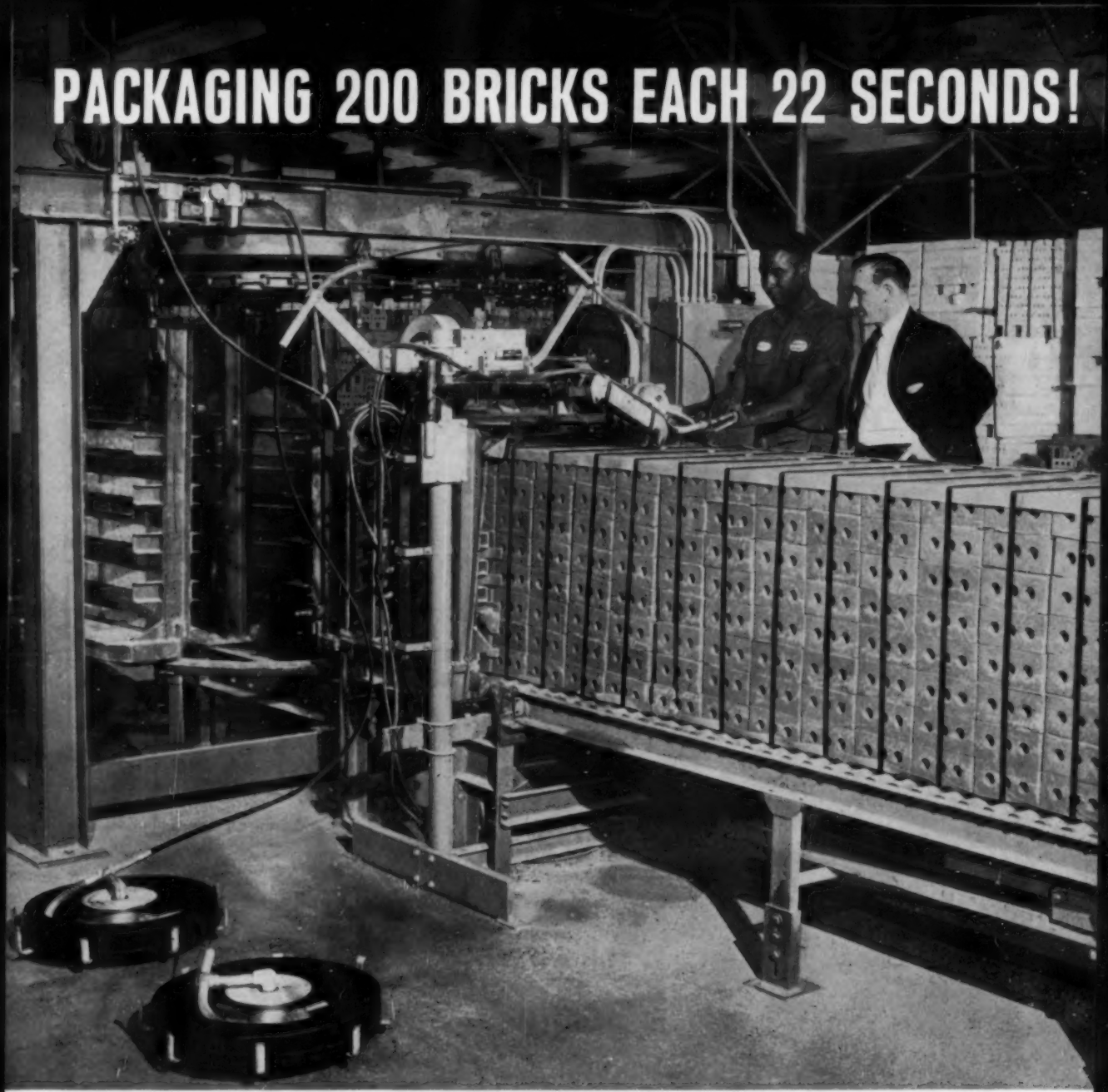
Work in the area of end-use research continues even today, but many advances have already resulted. For example, wall design research has brought the "SCR insulated cavity wall"* which utilizes new insulation materials. Wall strength tests on a variety of old and new types of masonry walls have proven valuable.

The work of SCPRF in the area of testing reinforced brick construction against the devastating force of atomic blast was carried out three years ago when there was little public interest in this type of protection. The brick industry was one of the

Continued on page 70

Jan and Jack Archer — youthful dance team who will appear at the convention

PACKAGING 200 BRICKS EACH 22 SECONDS!



Acme Idea Man Ed Waters views Idea No. S3-70 at Henderson Clay Products, Henderson, Texas.

One field-proven Link-Belt/Acme Steel brick packaging machine worked so economically, Henderson Clay Products bought another.

Each machine can package 120,000 bricks in 100-brick packs per 8 hour day, with only a 7 man crew. With two machines, this producer increases efficiency and output by 40% with existing manpower—packages most of their total daily production of a quarter-million bricks.

Find out more facts about this revolutionary volume brick packaging system today. A color film on the entire method is available for group showing. Write us on your letterhead.

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Chicago 27, Ill.

Please send me Idea No. S3-70 and examples of how major brick producers use Acme Steel Strapping.

*Name*_____

*Title*_____

*Firm*_____

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*City*_____ *Zone*____ *State*_____

Refractory Plant Hit By Fire

Fire swept through a 50-year old wooden factory building south of Danville, Ill. recently and company officials estimate damage at several hundred dollars.

The plant, which manufactures refractories, employs 65 to 80 persons who were out of the building at the time of the fire.

The factory was operated by General Refractories, Inc. in the village of Tilton, Ill. Ray Richardson is plant superintendent.

New Basic Refractories Plant For Canada

Refractories Engineering and Supplies Limited, Montreal, Quebec, will build new facilities at Bronte, Ontario, to produce high magnesia basic refractories. The announcement was made by G. W. Paterson, vice president and general manager.

The company is affiliated with Kaiser Refractories & Chemicals Division. The basic refractory mixes will be manufactured under license from Kaiser Refractories. The Canadian organization has been serving as a major supplier of clay and special refractories since 1945.

Construction is scheduled to start immediately, Paterson said. The new facilities will be in operation early next year.

Norton Company Names Sales Personnel

Norton Company's Refractories Division has announced several changes in its field sales personnel.

James L. Miller, refractories engineer in Chicago since 1954, has been assigned to the San Francisco area. He will be succeeded by John A. Trogolo who has been a product engineer at the Norton plant in Worcester, Mass.

Robert T. Hale, who recently completed the refractories sales training course and has been working in the product engineering department. has been appointed a refractories engineer in the Indianapolis, Ind. area.

Fire Clay Co. Sold, Plans Expansion

The 85-year old Denver Fire Clay Co., just recently sold to a newly formed Colorado company, plans expansion into production of materials for missiles and space ships.

Richard Shepard, president of Denner Fire Clay for the last seven years and now board chairman as well as the director of the new company—Thermal Ceramic Industries, Inc.—disclosed the sale and some of the firm's expansion plans on Oct. 29.

M. D. McClain

Jack W. Swatek

J. James Offutt

H. L. Beynon

A. P. Green Promotes Four

William S. Lowe, Mexico, Mo., President of the A. P. Green Fire Brick Company, has announced the appointment of J. James Offutt as Vice President and General Manager of the company. In his new capacity, Offutt will be responsible for the direction of all manufacturing, sales, research and engineering of the A. P. Green organization.

M. D. McClain, Assistant Vice President of the Green Company, has been appointed Assistant to the General Manager. He will maintain his headquarters at the Woodbridge, New Jersey office of the Green Company. Lowe also announced the appointment of Jack W. Swatek as Director of Sales, and of H. L. (Butch) Beynon of General Sales Manager. Mr. Swatek will be in charge of the administration of the overall sales policies of the Green Company. He has been General Sales Manager of the company since 1955. As General Sales Manager, Beynon will head up all of the active sales functions of the Green Company through its direct sales representatives, distributors, dealers, and foreign representatives.

Refractories People Join to

Welcome New Members at Fall TRI Meet

Colorado Springs Site of Regular Meeting

The Refractories Institute met at the Broadmoor September 15-16 for their regular Fall meeting. In the absence of president J. B. Arthur, E. W. Valensi of North American Refractories Co. acted as temporary chairman.

Several newcomers to the meeting were welcomed. They were G. J. Peer of Basic, Inc., E. J. Frese of Walsh Refractories Corp., and C. W. Enyart of the Bonnot Company.

The meeting was a heyday for honorary associate members. Present among them were J. E. Brinkerhoff, J. C. Evans, O. E. Miller, H. B. Plunkett, G. Puls, Jim Crawford. Mr. E. N. Ernst recently retired president of Louisville Fire Brick Works was elected a new member of this group.

Enjoying the proceedings are (l-r) R. A. Bush, John Sullivan, C. W. Enyart, and G. T. Needham.

N. Johnson Kent, H. B. Plunket, G. Puls, and J. C. Evans.

W. A. Porter and R. A. Ebersole. *H. F. West and E. W. Valensi.* *R. C. Shepard and A. C. Newton.*

The ladies enjoyed the affair also. Pictured here are Marjorie Cummings, Mary Lou Crawford, and Lucille Frese.

Hazel Schweikhart, Leola Brandt and Gertrude Gerbig smile for Brick & Clay Record Camera

Refr. Div. of ACS Hear Technical Papers on Wide Variety

New tool for process study and control outlined before 337 members at Bedford Springs annual meeting.

A record attendance of 337 members of the Refractories Division of the American Ceramic Society, along with their wives, heard a series of technical papers and enjoyed social activities at the Division's annual fall meeting at the Bedford Springs Hotel on October 6, 7, and 8.

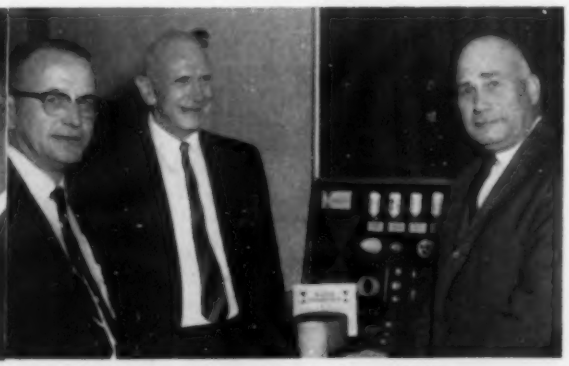
Featured at the meeting was a new tool for process study and control, which was outlined in a paper presented by M. S. Hoffman, of the Leeds and Northrup Co., Philadelphia, Pa. The "Digital Data Handling" paper dealt with a new series of machines designed to collect data from multiple points in any process and record them for future study. Features of the equipment included automatic time sequence readings along with provisions for operating the equipment manually.

In addition to the above paper which was well received, another ten papers of a variety of technical subjects were also presented. The technical papers covered subjects ranging from research experience to discussions of the final end products. Several new products were discussed, including high density firebrick and refractory foams.

Social activities at the meeting included golf tournaments for both the men and the women attending the sessions, a cocktail party, and the Annual Banquet which was followed by a square dance for members and their wives.

Something new was noted at the meeting in that for the first time, a separate room was provided for suppliers to set up their sales displays. Ten suppliers to the refractories industry took advantage of the room, and all the displays were well attended.

C. N. Jewart, Bethlehem Steel Co.; Ed Slick, Haws Refractories; and Lin Bettison, Chambers Bros. compare notes.



Bill Curry, Hiram Swanks Sons; J. A. Kayser, Gladding, McBean & Co.; and H. W. Gethin, Davis Firebrick Co. look over the displays.

Irv Marvel, Johns-Manville; Roy Ehman, Penn State; and Irv Dulberg, J. H. France Refractories Co. survey Kyanite Minings Sales display.

Bette and Ed Ruh, Harbison-Walker discussing business with D. V. Van-Gorden, Metal & Thermit and Al Allen, Univ. of Ill.

# of Subjects

Bill Brandt, Denver Fire Clay Co.; Mr. & Mrs. Robert Hall, Climax Fire Brick Co.; and Mrs. P. W. Trubey, Aluminium, Ltd. at cocktail party.

Relaxing for the time are Bob Smith, Davis Fire Brick Co.; Steve Arnold, Dart, International; and Mrs. Smith.

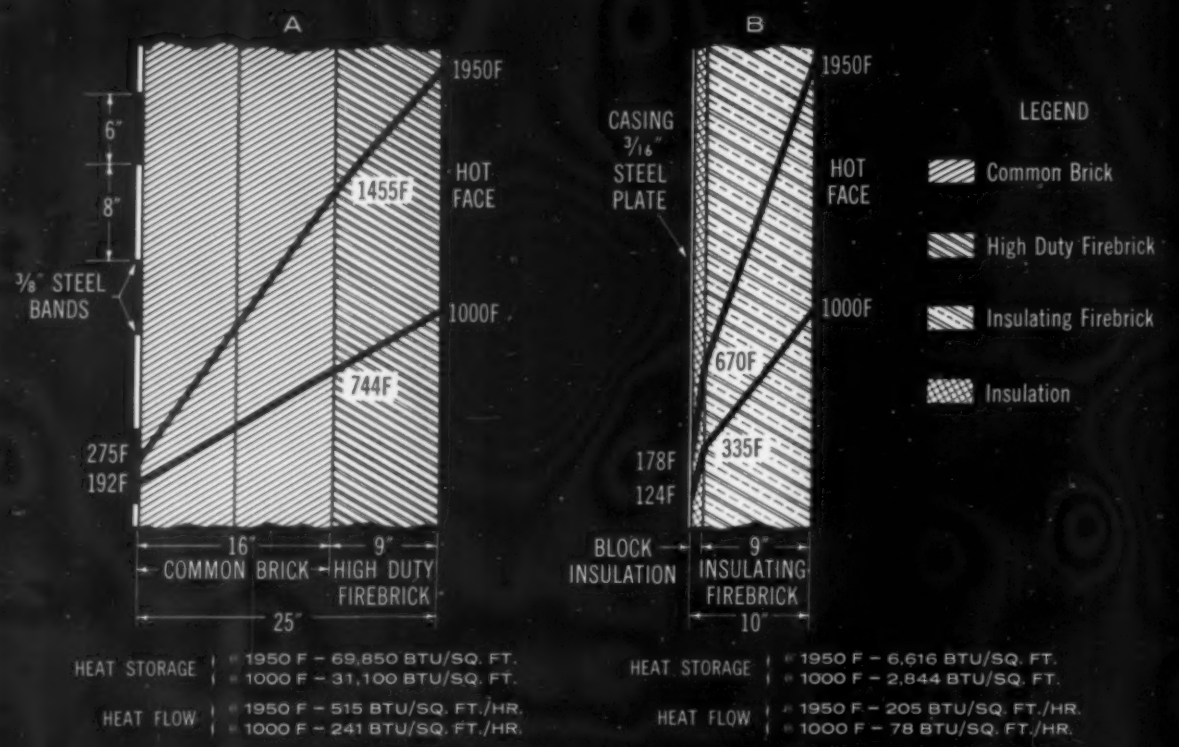
Russ McHenry, American Clay Machinery; Willard Davis, Oak Hill Fire Brick Co.; and Bob Griffin, Deister Concentrator Co. were caught offguard.

A joyous moment when Dick Stevens (right), General Refractories, receives award for best golfer at the tournament.

Group at evening banquet turn their smiles toward Brick & Clay Record's cameraman.

Elmer Spain, Chambers Bros. Co. getting all the details from Leeds & Northrup's M. S. Hoffman and H. A. Selko.

Refractory and Insulation's Frank Christenson and Al Arwyne showing off their display to Russ Miller, Frank Samuel & Co., Inc.



Comparative Heat Storage and Heat Flow for Thick Kiln Wall vs Thin Kiln Wall Construction

FIGURE 1

A DESIGN THAT DELIVERS PROFITS

Modern, thin wall, insulating firebrick lined, steel cased kilns cut costs many ways. Here's how:

That sounds fine, but can I maintain an even kiln temperature while reducing total fuel input?

Yes, because an insulating firebrick lining possesses far greater sensitivity to temperature change. As a result, an IFB lined kiln provides faster response to changes in firing rate. Because of the low heat storage characteristics of an insulating firebrick lining, changes in the combustion rate are followed rapidly by changes in kiln temperature. The added heat input goes into the ware, not the wall. This rapid response means reduced firing time, less fuel consumed—more profitable operation.

You say that furnace output is increased also?

Yes. Taking the same example—comparing a 25" wall to a 10" wall in a typical 38' 2" radius kiln—the thin wall construction provides an additional 12.5% increase in floor area and offers increased kiln capacity and output.

What about the problem of culls? Does this design offer any improvement in product quality?

Another of the advantages of a steel cased B&W IFB lined kiln is tightness. A fully cased kiln provides a tight wall construction. There is no cold air leakage into the kiln—no cold spots in the kiln to adversely affect the ware under fire. A tight steel cased kiln permits the maintenance of a uniform temperature gradient from top to bottom of the kiln. The result is fewer burnovers, and increased profits.

I operate several periodics. Can you explain why cycle time is improved in IFB lined periodic type kilns?

The low heat storage properties of insulating firebrick reduce cycle time in periodic type kilns. The low quantity of heat stored by an insulating firebrick wall can be absorbed and dissipated much faster than the larger amount stored by a dense wall construction. This means that your kiln heats up and cools down faster. Our experience over the years has shown that you can reduce heating time from 10 to 20% with an insulating firebrick wall construction—and you can cool your kiln down as fast as the ware will permit.

With faster cooling, the kiln must be more comfortable to work in. Is this true?

Another benefit provided by the thin wall, insulating firebrick lined kiln is improved working condition. The faster cooling time made possible only with a lightweight B&W Insulating Firebrick lining means improved worker comfort—increased production—greater return for your labor dollar.

What are the basic economies of thin wall, steel cased kilns?

One of the most significant developments to come forth in the last 15 years in the structural clay products industry is the thin wall, steel cased, insulating firebrick lined kiln. Note the difference in wall thickness shown in Figure 1. Offering the combined savings of reduced capital investment and lower operating costs, this new design increases production and profits. Thin wall IFB lined kilns provide the following benefits to the kiln operator:

1. Reduced capital investment as installed

2. Reduced fuel costs

3. Faster response to changes in firing rate

4. Improved product quality

5. Reduced cycle time in periodic type kilns

6. Improved working conditions

The following discussion provides the answers to many of the questions B&W has been asked about the money-saving, profit-building potential of this design.

How can a thin wall insulating firebrick lined kiln reduce my capital outlay?

One of the most notable advantages of thin wall insulating firebrick lined kilns is the savings in total capital investment. Total capital investment is dependent on (1) material costs, and (2) construction costs. Let's examine both. Figure 2 gives a typical evaluation of the total capital outlay for both constructions. Note that this comparison does not include the additional savings in reduced foundation costs that result from the lower weight of the kiln.

While an evaluation of this type will vary from kiln to kiln, depending on such factors as plant location, source of supply, etc., you can see that total costs will favor the thin wall, steel cased IFB construction.

I notice that you keep emphasizing that this is a thin wall construction. Why?

In Figure 1, we have compared two wall constructions that might be found in typical kilns. In one construction—labeled "A"—are 9 inches of dense firebrick, backed up with two 8 inch courses of red or common brick—a *total wall thickness of 25 inches*. This type of construction requires the use of steel bands for sidewall support.

The steel cased, insulating firebrick lined kiln—construction "B"—has a 3/16 inch steel casing around the kiln for the full height of the sidewall. The lining is 9 inches of IFB, generally with a use limit of 2000F, backed up with 1 inch of block insulation or insulating refractory castable—a *total wall thickness of 10 inches*.

This difference in wall thickness means a 66% reduction in brick laying time, alone.

How can operating costs be reduced?

Another major advantage provided by the thin wall, insulating firebrick lined kiln is reduced fuel costs. As seen in Figure 1, the steel cased construction—construction "B"—provides a lower outside wall temperature for a given hot face condition than does construction "A"—and it is 15 inches thinner! There is only one reason why—the insulating firebrick lining. Insulating firebrick are light in weight—they conduct less heat. This light weight results from the porous structure of insulating firebrick—porosity designed and built into the brick. Each of the tiny pores in an insulating firebrick acts as a barrier to the flow of heat. In Figure 1, the IFB construction conducts less than half as much heat through the wall. The fuel you burn heats the kiln, not the atmosphere around the kiln. Instead of paying fuel bills to heat your yard, you pay only to heat the kiln.

Approximate Cost Analysis of Heavy Brick vs. Insulating Firebrick Kiln Wall Construction

MATERIAL	UNIT PRICE DELIVERED	PRICE—DOLLARS PER SQ. FT.	
		CASE A	CASE B
HIGH DUTY FIREBRICK.....	$150/M	$1.92	$ —
FACE BRICK.....	50/M	1.80	—
MORTAR (FIRECLAY).....	40/NT	.20	—
STEEL BANDS (INSTALLED).....	.....	1.98	—
2000° INSULATING FIREBRICK...	205/M	—	2.62
MORTAR (AIR SETTING).....	145/NT	—	.19
STEEL SHELL (INSTALLED).....	.....	—	1.95
1"-1600° BLOCK INSULATION (INSTALLED).....	.....	—	.58
LABOR.....	100/M	4.88	1.28
TOTALS		$10.78	$6.62

Case A—Walls=9" High Duty Firebrick +16" Facebrick Banded by ⅜" x 6" Steel Bands and Turn Buckles

Case B—Wall=9"-2000° Insulating Firebrick + 1"-1600° Block Insulation + 3/16" Steel Casing

FIGURE 2

That's fine, but are these fuel savings significant enough to worry about?

Definitely. Lightweight not only means lower heat flow—it also means lower heat storage. In Figure 1, the lightweight insulating firebrick lining of the steel cased kiln stores 90% less heat than the dense, heavy wall of construction "A" for a hot face condition of 1950F. This means that to bring the ware in your kiln to a given temperature, you burn less fuel. Why? Because you are putting up to 90% less heat in the walls! Scores of case history studies have proved that B&W Insulating Firebrick save an average of 20-25% in fuel costs.

For further information, write The Babcock & Wilcox Company, Refractories Division, 161 East 42nd Street, New York 17, N. Y.

R-634

B&W

THE BABCOCK & WILCOX COMPANY

REFRACTORIES DIVISION

B&W Firebrick, Insulating Firebrick, Castables, Plastics and Mortars, Silicon Carbide, Ramming Mixes and Ceramic Fiber.

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Circle Service No. 41

Speaker W. C. Hackler

Material Preparation, Drying Stressed at Plant Operators' Forum

Over 100 clay plant operators from the southeast and as far west as Texas attended the 6th Annual Plant Operators' Forum held in Clemson, South Carolina on October 17, 18, 19. The meeting was sponsored by the Southern Brick & Tile Mfgs. Association, Clemson College, Brick and Tile Service and North Carolina State College.

Material preparation and drying was the theme of the meeting with the last day's session devoted to special products, including the new lightweight clay block.

The first days sessions were devoted to "making good materials out of bad". After a short welcoming ceremony by W. L. Lowry, Dean of Engineering of Clemson College, David L. Stuckey, Quality Control Manager of Pomona Terra-Cotta Co., Greensboro, N. C., told the plant operators how to "Predict Extrudability by Alumina Analysis". Stucky mentioned that through material analysis at the company's plant, it was concluded that as the percentage alumina in the material was up, the percentage recovery from the kiln and dryer was also up. More specifically, as the percentage alumina in the material increased, the air checking in the products was decreased. Stuckey then gave the procedure which the company uses for determining alumina in its raw material. He also brought out the fact that a change of as much as 2% in alumina content will make a big difference in the amount of dryer and kiln recovery.

L. R. Whitaker, President of Carolina Ceramics, Inc. of Columbia, S. C., discussed European brick making machinery and compared it to the American method of manufacturing brick. He pointed out the fact that the column of clay from a European machine is not as hard as that from the American machine, thus, the quality of the ware is also not as good as that of the American ware.

Jim Tanner, Harris Clay Co., Spruce Pine, N. C., explained the cleaning of clays and how it could be

Charles Taylor, Taylor Clay Products, Salisbury, N. C. explains how material is blended.

John Dickey, J. L. Carruthers, and D. B. Hendryx review day's activities seriously.

related to brick clays by cutting some costs in his paper "Making Clay from Rock by Flotation". While the method that Harris Clay Co. uses is prohibitive for the brick people, in that they have to process 400 tons of clay per day to get 40 to 50 tons of good clay, Tanner explained that by eliminating the refining processes that Harris is performing, the washing of brick clays might prove to be economical for the manufacture of number one face brick.

Calcining Material

J. E. Jimmerson, Henderson Clay Products Co., Henderson, Texas, told of his experiences in improving material by calcination. In trying to find a suitable grog to add with their Texas clays, they experimented with all types of non-plastic materials from burned brick grog up to calcined fire clay. They finally arrived at the decision that a calcined material would be more suitable for their operation and experimented on various degrees of calcination from a dried material to a completely vitrified grog. Their experience proved that they should use a low temperature grog which was fired about half way between the dried stage and the vitrified stage. Jimmerson, also pointed out that even a dry material will give some beneficial results in the use of their clay products. At the present time the Henderson Clay Products Co. is using a rotary kiln to calcine the clay and then grind and screen the calcined material through a 14 mesh screen. Other sizes could be used, depending on the desired texture. Generally, from 8 to 22% calcined material is added to the body, depending upon the type of ware being produced. The object of adding a calcined material is to 1) improve the workability of the clay body, 2) reduce laminations, 3) possibly cut down power requirements, 4) aid the drying process, 5) improve the oxidation process, thereby enabling a faster and safer burn of a clay product. Because of these factors it is quite possible that a cheaper clay product might also be manufactured.

W. C. Hackler, N. C. State College discussed the action of organic matter, water, and oxygen on aged material, in his paper "It Gets Better with Age." Generally, aging clay in-

Continued on page 71

Among those enjoying the buffet dinner at the banquet are Gary Finzer, Belden Brick Co. and Boyd Miller, Miller Equipment Co.

Dan Stevens, North State Pyrophyllite Co., Leon Byrd, Statesville Brick Co., Charles Lamar, Southern Brick Co. and J. M. Yoder, Ashe Brick Co. compare notes.

Gary Finzer, Belden Brick Co., Jeff Bickerstaff, Bickerstaff Brick Co., and Paul Clark, Chattahoochee Brick Co., listen intently to J. G. Seanor, Bonnot Co.

The speaker's table included H. B. Foster (behind rostrum), J. J. Cermak, SCPI, Mr. & Mrs. Jim Lee, and Mr. & Mrs. G. C. Robinson.

Wings on these augers are removable for replacement. The Borod hard-facing deposit prolongs life 4 times or more.

3 to 4 Months' Service from Auger Wings *Hard-faced with Stoody Borod*

One of the common wear problems in clay machinery is auger wings or "wing knives." Normal service life is 2 to 3 weeks, yet at a cost of approximately $13.00 for labor and hard-facing materials, life can be extended up to 4 months.

Hard-facing procedure consists of welding a ⅛" round along the periphery of the wing then "plating" the entire pressure face as well as the edge with a thin deposit of Borod. Wings are regularly inspected for wear, removed when efficiency starts falling off and are rebuilt following the same procedure.

Latest wear prevention techniques on all types of earth-working equipment are fully described and illustrated in THE STOODY GUIDEBOOK. A copy is available through your Stoody Dealer (check the Yellow Pages of your phone book) or write direct to the company.

Treatment of the auger wing is shown here. Top view is a new wing. Below, shape and size of the outer edge is retained by a ⅛" round. Face and edge are then completely covered with a thin wash of Borod.

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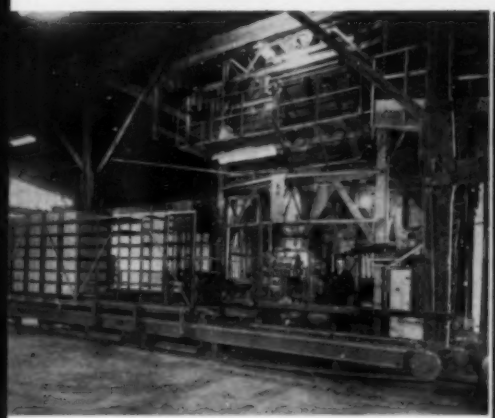
"We Produce

900 BLOCKS Per Hr.* with 2 3/10 MAN HOURS actual labor cost"

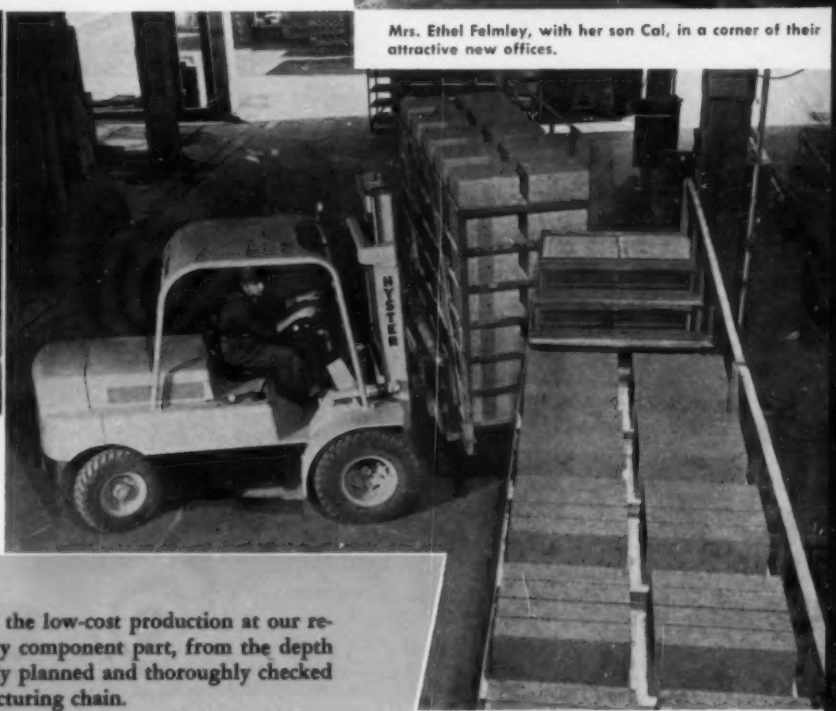
Says Cal Felmley, Western Block Co., Portland, Oregon

* Using Columbia 2 block Super 10, 12" high machine.

Mrs. Ethel Felmley, with her son Cal, in a corner of their attractive new offices.



Production units include: Automatic Rack Loader and Unloader, Super Model 10, 12" high machine, complete Columbia batching plant with weigh batcher, mixer, aggregate bins and silos. (Only a part of the batching and dry storage set-up is shown here.)



Hyster Lift Truck shown placing a big 140-block rack on unloading end of Columbia Automatic Rack Loader and Unloader. Kilns are at left of picture, back of Lift Truck, leaving plenty of space to maneuver.

"The efficient operation responsible for the low-cost production at our redesigned plant was no accident... every component part, from the depth of the pit to yard storage, was carefully planned and thoroughly checked to avoid any weak links in our manufacturing chain.

"With the complete cooperation of the men at Columbia, from management to engineering, machinery was adapted to utilize much of our existing plant. For example, to get the full use of every inch of our kilns, special 5-bay 7-high 140 capacity racks were built... these racks, used with a big 8000-lb. Hyster with 12 forks, have proved to be our greatest time saver, allowing the operator plenty of time to pick up and place a rack of cured block on the unloader; take a rack of green block from the loader to the kiln; take two full cubes from the cube-veyor and stack them in the yard and still have ample time to check the bins and the machine."

And, states Mr. Felmley, "without the dependability of Columbia equipment and the men who back it up, we could never have achieved this smooth operation."

For complete information about this and other Columbia equipped plants write, wire or phone.

View of cubing operation. Shows cubing offbearer being used with Columbia cube-veyor. Lift truck has just picked up 2 cubes for yard storage.

Circle Service No. 43

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Neue Automatische Herstllung in Einer Deutschen Fabrik*

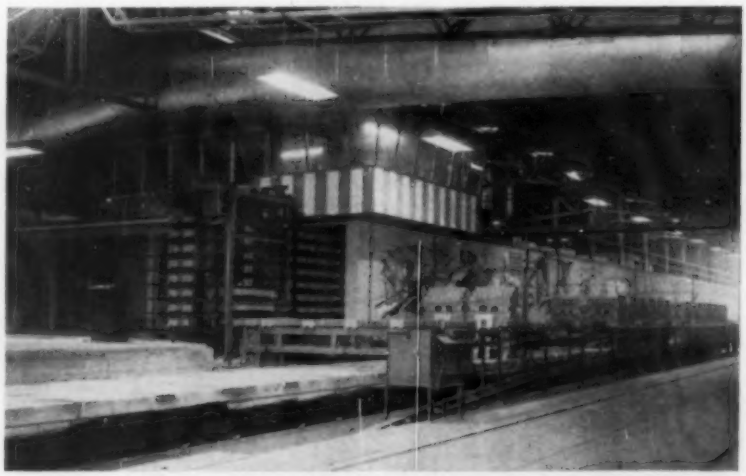
*Automation feature of new German Brick Plant.

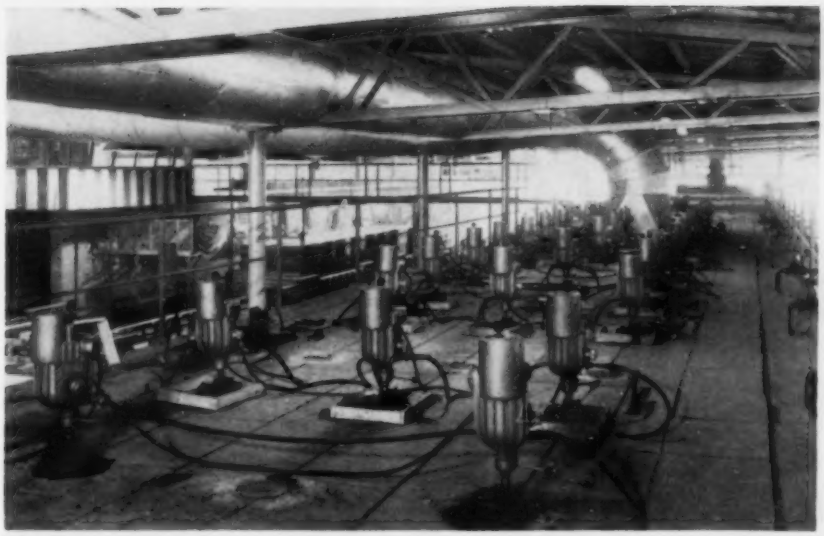
New Building housing brick machinery, dryer and kiln at Kalbermoor. Plant designed, engineered and constructed including equipment for 40 million brick production, (large size) by Hans Lingl, Maschinenfabrik, New Ulm Germany.

About 50 miles south of Munich, Bavaria, Germany, in a small town called Kolbermoor, a few miles from Rosenheim, is one of Germany's most modern brick plants. It is an entirely new plant added to an older operation at the same site.

It was placed into operation in May of this year being designed, equipped and constructed by the Hans Lingl Maschinenfabrik of New-Ulm, Germany, The brick which, as illustrated in the photos, are multi-cored and of jumbo size are made by the soft-stiff mud process typical of the European system. Features of the plant include automatic pallet or slat feeding, automatic transfer of green brick to dryer cars which in turn are automatically placed for pick up by electric dryer transfer cars. Then at the exit end of the dryer is the automatic unloading of dried brick on to conveyors which supply kiln car setters. The tunnel kiln cars are set in four sections for simplified handling by lift trucks.

Dryer exit end and automatic transfer of dried brick onto conveyor which feeds brick to kiln car setting stations. Note drawings on side of dryer depicting progress of art of brick making. Also above dryer is glass encased control room.





Mechanical, automatic oil burning apparatus located on top of tunnel kiln.

The kiln is oil fired from the top by automatically operated feeders or burners.

Another feature is a central glass encased control room where all electric operated as well as thermostatic controls are housed. The enclosure overlooks the whole operation.

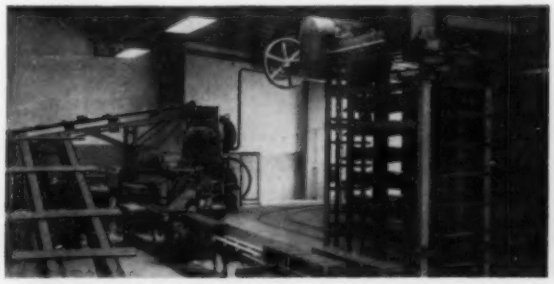
The building is steel-constructed and much better built than our American counterparts. The interior is painted in different live colors. On the side of the dryer is a series of well-done drawings of the progress of brick making from its primitive stage to today's modern mechanized plant.

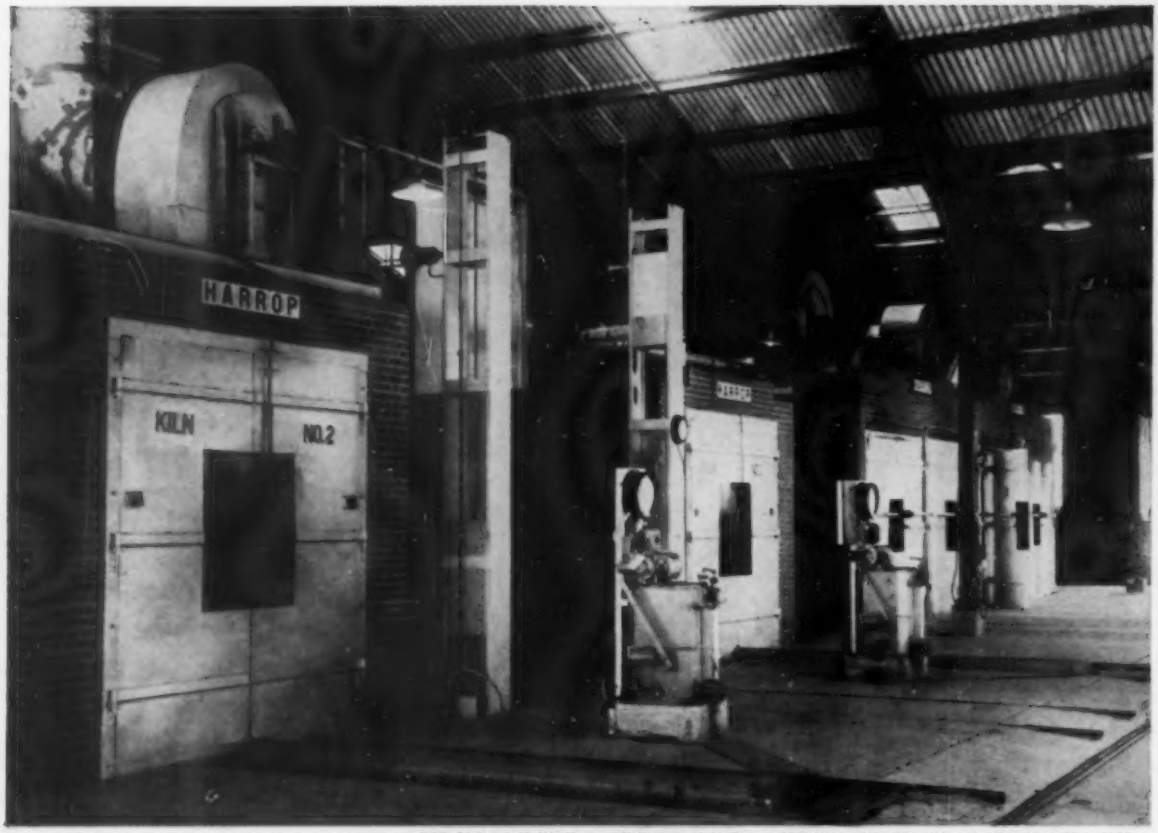
The plant capacity is planned to produce 40,000,000 bricks a year. At the time of the visit of a group of Americans in August the plant was reported to be producing around 60,000 brick daily with only 20 men which is far below normal European labor force practice. Dr. Kosney is the managing director.

Shows brick die, automatic cutter, automatic slat on pallet feeder magazine, slat loading station where slats are collected after being returned by conveyor.

In rear—brick machine, then automatic cutter slicing one brick at a time. Left of cutter is automatic pallet or slat pusher onto which brick are automatically set. Conveyor carries slat of 9 jumbo brick to automatic loading device which loads dryer cars. Automatic turn table sets dryer car preparatory to placing onto dryer electric transfer car.

Kiln car unloading station where lift trucks load motor trucks for shipment or deliver to storage.





With Bickerstaff, it's Harrop all the way. L to R, new 290′ Harrop kiln (No. 2) in operation since May, 1959; original Harrop Kiln (No. 1), installed in 1955; new 136′ Harrop twin-tunnel dryer; original Harrop twin-tunnel dryer installed with Kiln No. 1. View shows discharge end of dryers, charging end of kilns.

Why Bickerstaff Brick specified a second Harrop installation

The original Harrop dryer and kiln installation for the Bickerstaff Brick Co., Columbus, Georgia, was profitable from the start. It had a design capacity of 50,000 8″ equivalents per day but, when needed, daily production peaked to 64,800. This is a healthy 30% bonus output of red and flashed red face brick, both cored and solid types.

When Bickerstaff decided to double capacity in order to handle increased sales volume, they wanted the new installation to match this record of efficiency. Naturally, they called in Harrop again to design and build the second dryer and kiln.

Frank Bickerstaff, Jr., President of the 70-year-old company whose products are well-known throughout the Southeast, reports: "Harrop designed and built extra efficiency, extra performance into our dryers and kilns. They proved it to us, twice-over."

Call in Harrop for new dryer, kiln or plant design, or modifications, that will assure you of efficient and profitable production. Our non-obligating consultation service brings you the benefits of 38 years of proven engineering and construction experience.

Work crew loads kiln cars directly from off-bearing belt. Each kiln normally handles 16 cars per 24-hour day, 3,600 brick per car. Normal daily production for these two Harrop dryer and kiln units averages 115,200 brick, at least 15% above design capacity.

Kilns discharge fired brick. Harrop Kiln No. 2 (foreground) differs from original kiln (left) it closely resembles by introduction of excess air burners ahead of firing zone. These air burners provide an even "heat-up," assure amazingly uniform shrinkage of these surface-clay brick.

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Harrop Precision Furnace Co. (division of Harrop Ceramic Service Co.), 3470 E. Fifth Ave., Columbus 19, Ohio . . . laboratory, industrial and school furnaces

Circle Service No. 44

Continued from page 47

The material from the kiln discharges onto a reciprocating plate type cooler, 23-feet in length. The cooler reciprocates at a frequency of 12 times per minute and the amplitude of vibrating is approximating 11 inches each time. Approximately 5 minutes are required to cool the clinker from 2200° to 300°F. Cooling is accomplished by 700 cfm of air passing under the material, with the hot air being reclaimed for use in the firing system of the rotary kiln.

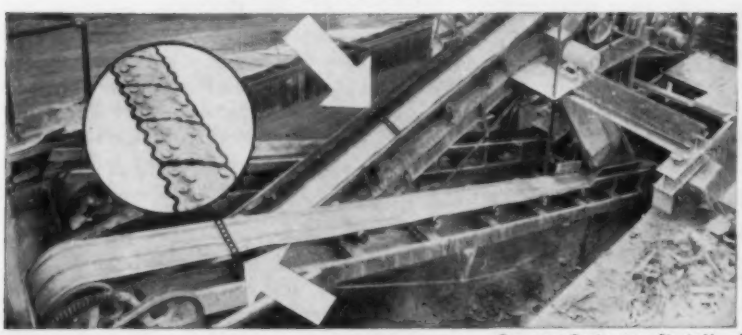
Automatically Controlled

Drafts inside the kiln and cooler are automatically controlled by pneumatic controls. Because of the extremely dusty conditions inside a plant of this sort, all controls are pneumatic, thus eliminating failures from electrical controls because of poor contacts between electrical points, etc.

From the cooler the material is then sent by belt conveyor to an open stockpile. Another belt conveyor located under the stockpile gathers the material from the pile and delivers it to the crushing and grinding building, which houses two ball mill type grinders for reduction of the bloated material. From the ball mills, the ground material is fed to triple-deck screens for separation into appropriate sizes. The material over ¾" is returned to the mills for further grinding while the sizes finer than ¾-inch are separated and delivered to three finish silos for storage and blending.

The three sizes which are separated include the ⅜ to ¾-inch, the 5/32 to ⅜-inch, and the dust to 5/32-inch. Dust includes all the fines and material smaller than 5/32-inch. From the three finish storage silos, the material can be shipped as a separate fraction, or any blend of these sizes can be made to suit customer specifications.

"We tried them all— then standardized on CRESCENTS"



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SEE PAGES 28 & 29!

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pioneers in atomic blast protection even though it was aware that the public was not much interested. Now, three years later, there is a growing awareness by the public that "something must be done" to protect homes against the possibility of atomic blast as well as natural disasters such as storms, hurricanes and earthquakes. The original data gathered by SCPRF in its "Operation Plumbbob" atomic tests is now being used by the Office of Civil and Defense Mobilization in designing brick shelters against this severe damage. Similar work by SCPRF in the area of radiation protection is also being used to educate the public in protection against fallout.

Other wall design research has probed the areas of sound transmission, mortars, weathertight masonry construction, fire resistance, cleaning techniques and thermal research.

The list of products and processes developed or improved by the laboratories of the SCPRF is astonishing. One has only to think of such things as the "SCR brick,"* the "SCR masonry process,"** "SCR acoustile,"*** and the latest development, the "SCR building panel."**** These are only a few of the things which assure a bright future for the industry.

The industry's research program in the field of lightweight clay products holds the promise of some truly revolutionary changes in the traditional concept of brick and tile. Development of lightweight clay aggregates in specially designed furnaces continues apace. The use of lightweight aggregates in the future are seemingly endless. Tests show that it can be used in every type of unit with good results.

An industry which has been in business for 8,000 years might be expected to sit back and be content with things as they are. The nation's brick and structural tile makers has shown that they do not believe in this. They have shown it by their support of the Structural Clay Products Research Foundation. They are are the embodiment of the SCPRF slogan, "New Frontiers with Structural Ceramics."

*Reg. T.M., SCPRF

*Reg. U.S. Pat. Off., Pat. Pend., SCPRF
**Reg. T.M., Pat. Pend., SCPRF
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Continued from page 63

creases plasticity of the clay, and because of the leeching process of rain water and ground water, the amount of soluble salts in the clay were lowered. In the discussion which followed, it was brought to the attention that aging in some clays tends to bring out scumming possibilities in certain types of clay.

Charles Taylor Speaks

Charles Taylor, president of Taylor Clay Products, Salisbury, N. C., discussed how his company develops new products through clay blends. When Taylor Clay Products Co. just started operations some years ago, they started using only one clay and making only one clay product. The company is now making more than 28 products; blending clays, fire clays and shales. There is a definite need for new products to compete with other building materials.

The first day's session was concluded with a cook-out held a few miles from the college, where all the guests cooked their own steaks to their own liking.

The second day's meeting was presided over by James A. Lee, Director of Southern Brick & Tile Mfgrs. Association. W. C. Hackler of N. C. State College in Raleigh, N. C., discussed how "Physics Laws Guide Drying Practice". He pointed out that drying depends on 1) the temperature of the water in the ware, 2) the temperature of the air, 3) the moisture content of the air, and 4) the velocity of the air. He also discussed the rate of diffusion and how it is associated with the drying rate.

J. L. Carruthers of the Edward Orton, Jr. Ceramic Foundation in Columbus, Ohio, also discussed drying in his paper "Fundamental Factors in Clay Ware Drying". He pointed out that the setting of the ware on the dryer car will determine the length of time and of drying along with the other factors mentioned by Hackler. The setting and the size of the piece will determine how much heat can get into the setting on the car. One basic factor to all drying processes, is the heat supplied. Without heat there can be no drying. He pointed out that differential shrinkage causes cracking so that care must be taken to remove water uniformly to take the shrinkage out of a clay body uniformly. He then discussed the heat transfer by 1) convection 2) radiation, and 3) conduction. Since the permeability of a clay body is determined by the grinding and screening operation which in turn determines particle size and particle size distribution, the rate of drying, in some cases, may be tied in directly to the grinding and screening operation.

"Scumming Depends on Condition" was a title of a paper presented by George Harrell, Instructor in Ceramic Enginereing at N. C. State College. Harrell pointed out that scum is defined as a formation on the surface of a ceramic body in process of manufacture, while efflorescence is defined as a formation on a finished product. Both scum and efflorescence, are caused by soluble salts migrating on the surface of the body. There are many possible sources of scumming with the clay proper being the first possible source. Other sources are possible tempering water, lubricating oil, changes taking place in dryers,

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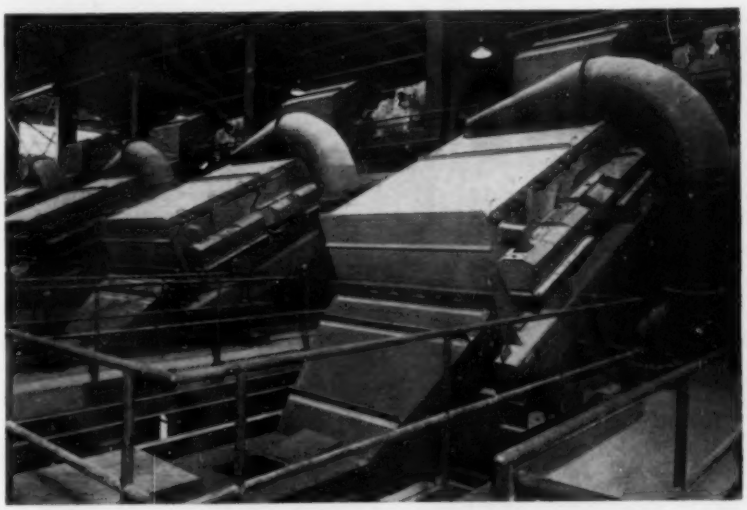

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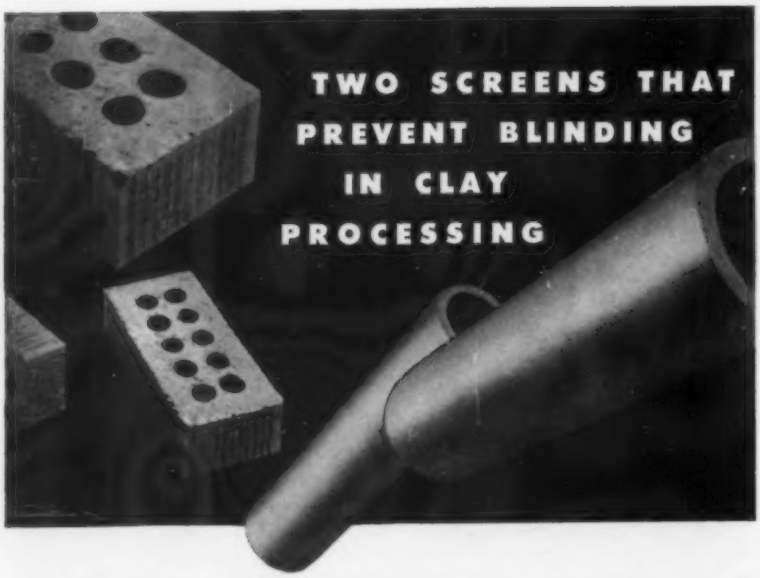
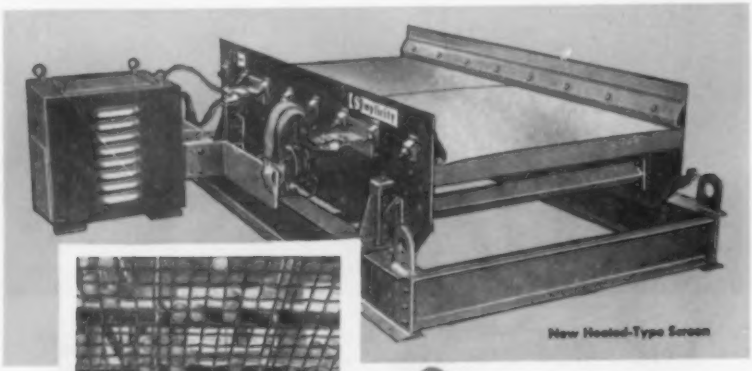
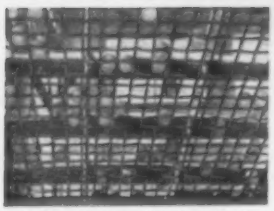


SIMPLICITY'S NEW HEATED-TYPE AND BALL-TYPE



New Heated-Type Screen



Underneath view of Ball Tray Deck

One of the greatest clay screening problems is that of blinding . . . the severe impairment of production by sticky, moist clay clogging the holes in the screen.

Where square openings are less than 5/32"; Simplicity Screens embody electrical heating. The screen wire is heated to approximately 140°, which prevents blinding, but does NOT DRY THE BED OF THE MATERIAL. This makes possible operation of the heating elements for only about 45c per hour. High-amperage, low-voltage current presents no safety hazard.

This new heated screen features an improved method of heat distribution, and easier screen cloth replacement—none of the heating elements are disturbed when changing cloth. Elimination of screen cloth whip results in longer cloth life.

Where screening needs require screen cloth with square openings of 5/32" or over, Simplicity Ball Tray Screens employ bouncing rubber balls, trapped between the screen cloth and a retaining cloth. Vibration of the screen agitates the rubber balls, which knocks clay loose from the wires . . . no matter how wet the clay may be. Eliminate your clay screening problems permanently with Simplicity Heated or Ball-Type Screens. Both types have proven their economy and dependability in tough applications throughout the country.

For all details on these screens and other Simplicity conveying, screening or feeding equipment, write us today.

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Continued from page 45

cator and controller. Unit Simplytrol indicators are mounted at each lower temperature couple for quick reading and burner adjustment. Similar thermocouples are spaced throughout the kiln crown and in the fans for accurate knowledge of all temperatures.

Cooling air and kiln exhaust fans, and pressure blowers on the kiln are all by Robinson Ventilating Company. Quick cooling is accomplished by blowing high pressure air in the sides and top of the kiln. One Miller cross-flo fan is utilized just beyond the relief port to smooth-out temperature differences. Additional spaces are provided. One unique feature of the 120-foot cooling zone is its division into two sections by Tysinger. A second relief port was provided near the end of the kiln to take off part of the cooling air and pipe it to the relief port feeding the dryer. This was to slow the velocity of cooling air in the tunnel in the critical temperature range of 800-1400°F. Initial results indicate this has improved the cooling characteristics of the free-silica rich shale, reports Tysinger.

Brick are unloaded on the two hacking tracks by Towmotor lift trucks equipped with Bickerstaff forks. The eight brick wide x 10 brick long kiln cars, designed by Triangle and built by Knight Manufacturing Company, feature Timken tapered roller bearings and North State Pyrophyllite car tops. One man can easily move them into position for the lift trucks to take the brick into an adjoining 45' x 120' shipping building where Pack Hauler cubes are formed. Five double packs are used to deliver all brick to the customers or to yard inventory. Layout of the loading area is another example of good planning for future expansion. The 45-foot building is in line with the 36 foot machine room extension previously mentioned, but separated by 60 feet of open space. The entire loading area and open area was paved to facilitate loading and in-process storage; but the level was dropped below the floor level of the kiln building so that this floor becomes the foundation for future unloading and hacking tracks when they are added. A 20- x 40-foot section at the end of the loading shed was partitioned for office space of this new North Carolina company.

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Here's ONE high-performance, fully-hydraulic crane that doesn't cripple truck capacity! Constructed of newest alloy steels . . . T-1 and COR-TEN . . . wherever desirable, to reduce weight and bulk while retaining rugged strength . . . the new "200" weighs only 2300-pounds, and takes only 17-inches of bed space! Yet, it lifts from 3,750 lbs. (at 8') to 2500-lbs. (at 16')! The big 16' boom works in a full 360-degree circle. And hydraulically extensible outriggers stabilize load throughout movement!

The TEALE-200 is equipped with 2-way controls. EXCLUSIVE, new solenoid-valve controls . . . with electrically activated manual-type valves . . . permit (1) straight remote solenoid operation, or (2) HAND control, with "feathering"! (It's the only Solenoid System that allows emergency hand operation.)

"200" fits any truck with curb weight of 5,500 lbs. and up . . . is ideal for those with single axles!

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Orton Standard Pyrometric Cones provide a visual indication of the progress of firing during the critical high fire stage. Also, by observing the cone deformation pattern through the peep holes, you have a direct indication of heat distribution.

Throughout the years Orton has maintained rigid control of cone material and processes, which is your assurance of reliability of the cones used in all types of kilns . . . day in, day out and from year to year.

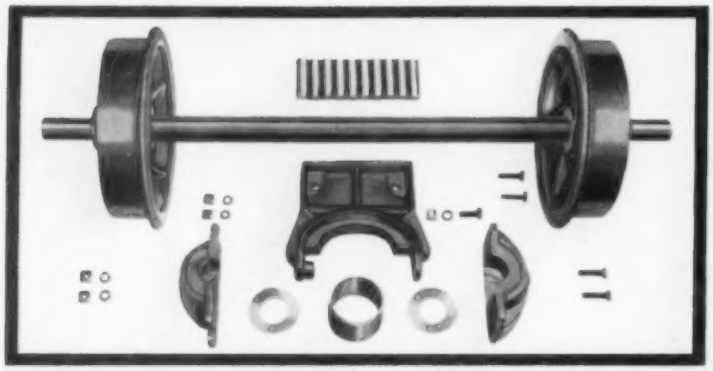
If you are not now utilizing this time-tested and proved method of control, to the fullest degree, write today for our highly informative booklet, "The Properties and Uses of Pyrometric Cones."

the firing insurance of thousands

Foreign Sales: International Division, The Ferro Corporation, 4150 E. 56th St., Cleveland, Ohio, or the Foundation

The Edward ORTON Jr. Ceramic FOUNDATION
1445 Summit Street Columbus 1, Ohio
AXminster 9-8023

Circle Service No. 50



LENGTHEN DRYER, KILN AND TRANSFER CAR LIFE WITH CHASE REPLACEMENT PARTS

Give your old dryer cars, kiln cars and transfer cars a new lease on life with genuine Chase Repair Parts. Made to fit nearly all makes of cars and any track gauge, these replacements can help improve your profit picture by adding years of extra service to your present cars.

Check now for needed car repairs and place your order for early delivery. Every Chase Replacement Part is backed by more than sixty years of experience in the manufacture of equipment for brick makers.

Chase

WRITE FOR CATALOG OR SEND SPECIFICATIONS FOR PROMPT PRICE QUOTATION.

FOUNDRY & MANUFACTURING CO.

2350 Parsons Avenue • Columbus 7, Ohio

Builders of industrial cars, trucks and racks since 1897

Circle Service No. 51

REPAIR PARTS CHECK LIST

☐ **Chase Wheels and Axles** — Select the grade of gray iron wheels best suited to your regular car loads. Plain, chilled and high-strength gray iron can be supplied in single-flanged, double-flanged and flat-faced styles. High-carbon steel axles are available in three journal diameters.

☐ **Chase Flexible Bearings** — Dust-proof, oil-retaining bearing has flexible boxing to allow for irregularities in track or car frame, or bent axles, without extra friction. Renewable steel liner is easily replaced to give a complete new bearing surface at a very small cost. Available in three sizes for various load capacities. Other types of bearings and bearing parts can be furnished to your specifications.

☐ **Chase Steel Decks** — Special high-carbon, high-strength steel channel slats are arc-welded into split or two-piece, folding and cross-slatted styles.

☐ **Chase Deck Supports** — Easily convert single-deck dryer cars into double or triple deck styles by bolting on these sturdy steel uprights.

☐ **Chase Channel Slats** — High-carbon, high-strength steel slats can be supplied for any car or deck. Give extra-long service under heavy usage.

☐ **Angles, Gussets, Brackets, Other Repair Parts** — Available for any style dryer car.

☐ **Trackage** — Strong portable track, usually supplied in 15-foot sections with five cross-ties. Switches also available for any gauge track.

- **Fluorspar**
- **Magnetite**
- **Chromite**
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We have recently built a completely modern plant in Brownsville, Texas, to process minerals for the brick trade to size and high chemical specifications. Custom grinding facilities are available.

This plant means more efficient service and, as a shipping point for other NP & M products, quicker delivery for our customers in the West and Southwest. It represents another step in our expansion program designed to meet the increasing demand for our wider range of products. Those listed here are all immediately available and will be milled to your requirements.

Our consistent growth over the past 65 years is a measure of the personal service you may expect from us as well as the quality of our products.

NATIONAL PAINT & MANGANESE COMPANY

A division of Howe Sound Co., Inc.

Lynchburg, Virginia

CONTRIBUTING ASSOCIATE SCPI

Circle Service No. 52

Continued from page 71

waste heat, regain moisture, and weather conditions.

George J. Bishop, plant manager of Columbia Brick & Tile Co., in Columbia, S. C., discussed how scumming can be eliminated by proper kiln balance. He pointed out that it is imperative that clean air be sent to the dryer. In balancing a kiln, he pointed out that the load on the kiln car, if varied considerably, will change the kiln balance. Bishop's paper will be presented in a future issue of Brick and Clay Record.

George Seanor, Bonnot Co., Canton, Ohio, discussed how "Regain Moisture Breaks up Bricks". Seanor pointed out that regain is a reverse of the drying process whereby brick, instead of losing water, actually take on water. Seanor pointed out that brick lose up to 90% of their dry strength after gaining only up to 2 to 3% regain moisture. Several ways to prevent regain moisture are to 1) put the ware from the dryer to the kiln immediately, 2) do not dry the ware too dry, that is, dry it just to a point where the ware is in equilibrium with the moisture content of the atmosphere.

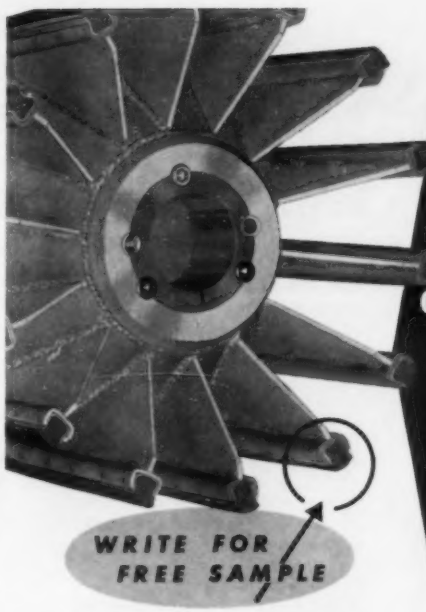
H. J. Dowdle, Jr. of the Pine Hall Brick & Pipe Co., in Madison, N. C., pointed out in his paper that some North Carolina clays are not affected by regain moisture even though it was present in certain conditions. Some damage which is blamed on regain moisture may be due to other causes.

Huge Inventory Noted

G. F. Finzer, plant superintendent of Belden Brick Co., Sugar Creek, Ohio, discussed "The Tools of the Trade". With Belden Brick Co. making more than 84 products in their Sugar Creek plant, the company has to keep a perpetual inventory of 10 million brick at all times. Finzer discussed how this was done and how accurate records were kept on inventory, sales and shipping.

Kirby Allen of A. P. Green Fire Brick Co., Mexico, Mo., discussed beneficiation processes in the refractories industry. Starting from prospecting, Kirby pointed out how

Continued on page 81



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• LESS WEAR OF CONVEYOR BELTS
AT THE
DRIVE ..... END
with the NEW
"RUBBER LAGGED"
TURN-CLEAN® PULLEY

. . . And Full Information on How to Solve Difficult Drive Pulley Problems

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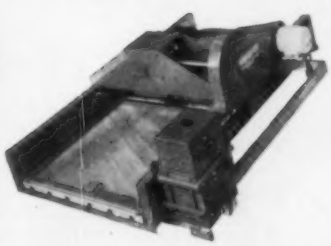
Circle Service No. 53

FIRST in Screening and Operating Efficiency



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INTEGRATED HEAT SCREENING

Many exclusive features such as Differential Vibration, fully integrated FlexElex® heating and power-saving bus bar circuits, put the Leahy® Vibrating Screen in a class by itself. No other screen offers even comparable screening efficiency and operating costs.

In addition, the cleanly engineered design completely eliminates bothersome flexible connectors. And because there are no electrical connections to break or remake, jacket changes are effected in a few moments time.

For full information and performance records, send for Bulletin 16-EH.

THE DEISTER CONCENTRATOR CO., INC.
The Original Deister Co., Est., 1906
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Parmanco

SPECIALISTS IN AUGER TYPE DRILLS

NOW . . . GREATER DRILLING POWER

MODEL F-86B
Mounts on any ½ ton or larger truck

A DRILL THAT DOES THE JOB FASTER AT LESS EXPENSE TO YOU!

- Full 6′ twin hydraulic cylinder feed for faster drilling and more pulling power.
- Simplified control. All controls are centralized at rear of drill.
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Complete information on request.

MODEL F-86
Jeep mounted

PARIS MANUFACTURING COMPANY
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Cut Crushing Costs With Colmonoy Hard Surfacing

Colmonoy alloys are used to cut costs both here and abroad. A British foundry brick producer rebuilds his crusher jaws with Walmang No. 3, then hard surfaces them with Colmonoy No. 1. He reports service life of 630 hours now, versus 160 hours formerly—and this easy-to-use hard surfacing can be applied repeatedly.

There's a wide variety of Colmonoy Alloys. They resist all types of wear, cutting costs. Tell us about your wear problem. Send for the Colmonoy Hard-Surfacing Manual today.

HARD-SURFACING
A BRAZING ALLOYS

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Move Kiln Cars at Big Saving!

"We just couldn't do without our Gravelys" . . . write important brick and tile manufacturers who've been using them for years for moving kiln cars in and out of kiln and to other stations.

The Gravely LS Tractor—geared-down 6.6 HP, low-speed model, with dual wheels and governor—is the answer. It's small enough to work in crowded areas, yet powerful enough to move loaded cars over 100,000 lbs. Toolholder fits coupling unit on cars. Two speeds forward and reverse allow operator to move cars in either direction.

But that's not all! The same Gravely, offering 30 different attachments, takes care of every grounds maintenance job, from mowing lawn areas to power sweeping loading docks and drives. Eliminates expensive equipment, saves time, labor, money.

Write TODAY for descriptive literature, or for FREE Demonstration under your own conditions. No. obligation.

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PERFORMANCE-PROVED SINCE 1922

Circle Service No. 57

Abrasion Resistant Die

Among other achievements, the A. P. Green Firebrick Company of Mexico, Missouri, reached a new high in solving the brick mold liner wear life problem with which all producers of refractory products are faced. As is well known, because of the severe abrasiveness of refractory materials, wearability is a prime factor in brick mold liners. Also, because of the extremely close tolerance requirements in some finished products (notably the blast furnace stove checker shape) abrasion resistance in liner material is essential in controlling the finish size of molded piece parts.

In their unending product research investigations, the A. P. Green Firebrick Company ventured out of the field of the various materials normally used for liners, including the usual tool steels, and accept the challenge of using an unconventional product based on its technical properties. The choice fell upon a tool steel which is a high carbon, 5% chromium air hardening die steel with the gratifying end result that thousands of individual stove checkers have now been produced between grinds on this special liner material. Further, do to the deep hardening quality of the alloy, the reground die duplicates the original performance almost indefinitely.

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serve industry best

Hanco ELECTRIC SCREEN HEATERS

❶ ELIMINATE BLINDING

❷ INCREASE TONNAGE

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JIFFY-LIFT CAN TRIPLE YOUR DELIVERIES DURING PEAK PERIODS!

Users all over the country report that Jiffy-Lifts earn their own way—and then some.

Jiffy-Lift's efficient engineering and ease of operation insure years of economical, trouble-free service, and make the loading and unloading job as rapid and as easy as possible. You can actually cut your delivery time to one-third over outdated methods. Easily installed and maintained, the Jiffy-Lift is your answer to loading and unloading problems.

- Four Wheel Drive . . . reduces slippage, safer to load and unload on an incline, fast, smooth operation.
- Automatic Trip Release . . . raises cradle while driver readies next cube, automatically stops.
- Four Cable Suspension . . . eliminates swinging, permits lifting 10,000 pound loads with ease.
- Dual Controls . . . may be operated from either side of truck.

JIFFY LIFT

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Circle Service No. 62

COMPARE
COST OF CLAY WINNING METHODS!
You'll Pick An Eagle Shale Planer

Eagle Shale Planers win clay quietly and continuously, with no lost motion. Clay planed off in small pieces—no need for crushing—easier on fine grinding equipment. Planes from top to bottom of bank mixing all strata. No need to drill and blast. Cleaner pit floors. All weather operation. Lowest cost per ton. Get the facts—send for Bulletin 456.

SINCE 1872

EIW EAGLE IRON WORKS

Double Roll Crushers • Grinders • Dry & Wet Pans

EAGLE IRON WORKS

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NOW
100% AUTOMATIC MOISTURE CONTROL

EMC 703

In Your Pug Mill or Batch Mixer.

Installations in:

Common Brick
Flue Lining
Drain Tile
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Face Brick
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Automatically holds desired moisture content; insures against product size variation; removes human error.

WALTER C. STOLL & SONS
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Circle Service No. 60

AVOID COSTLY INJURIES

LONG-WEARING TUFHORSE MITTENS AND PADS GIVE EXTRA PROTECTION

Tufhorse KANT-RIP

DES MOINES GLOVE & MFG. CO.
Des Moines, Iowa

Increase the output of your men by protecting their hands with famous Tufhorse gloves, hand pads or mittens. Made of most durable leather available. Split cowhide, Tufhorse Kant-Rips are always flexible and comfortable to wear.

Please help me to avoid costly hand injuries! Send me samples of:

Glove No. G-9 ($18.50 per dozen pairs)
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(All F.O.B. Des Moines)

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Firm_____
Address_____
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Sample Gloves at per dozen prices

Circle Service No. 59

HOMMEL WATER-QUENCHED POTTERY FRIT

Added protection against glaze crawling, is yours with Hommel water-quenched frit. It's fast ground. You'll find Hommel frits completely free of metallic iron particles . . . a glaze with lower solubility. Gives a smoother finish and better quality . . . at lower cost. Write for samples, with or without glaze stains.

"The World's Most Complete Ceramic Supplier" BCR-1160

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PITTSBURGH 30, PA.
WEST COAST • 4747 E. 49th STREET • LOS ANGELES

Circle Service No. 61

Trade News

3 Named to New Positions By Zonolite Company

A transfer, a new district manager, appointee, and an elevation to regional manager have been announced by Zonolite Company, vermiculite miners and processors, Chicago.

Named to a newly-created post of Midwest Regional Manager is John A. McEachern, 36, who joined the firm in 1953 as a sales representative in New Orleans, and has subsequently served as district manager in Kansas City and St. Louis. He will continue to serve as district manager in St. Louis while assuming supervision of the company's Chicago and Kansas City districts. The total area encompasses Missouri, Illinois, Northern Indiana, and Eastern Kentucky.

Donald M. Stewart, 32, who has been Zonolite's district manager at Wilder, Ky., (Cincinnati), has been named to manage the firm's New England district headquartered at North Billerica, Massachusetts, service as a territory salesman and product specialist. Promoted to district manager in Wilder is Vern G. Monroe, 33. Currently president of the Producers Council Chapter in Cincinnati, Monroe too has been a salesman and product specialist with Zonolite since 1951. His district covers portions of Ohio, Kentucky, and West Virginia.

Mix-Muller Gets New V.P.

E. C. "Bert" Troy has joined National Engineering Company, manufacturers of the Simpson Mix-Muller, as V.P. in charge of Sales.

A past national director of the American Foundrymen's Society and past chairman of the Philadelphia AFS Chapter, Troy has since 1958 served as Vice President of the Pennsylvania Electric Steel Castings Company, Hamburg, Pennsylvania. Previous to that, he served National as Eastern District Sales Representative.

McKee Buys West Coast Manufacturer

Arthur G. McKee Co., Cleveland engineering and construction firm, entered the manufacturing business recently through an agreement to acquire Western Machinery Company, San Francisco, Calif.

2 ways Gates high capacity V-Belt Drives contribute to industry profits

ON IN-PLANT EQUIPMENT, Gates Super HC V-Belt Drives lower maintenance costs—as on this pump at Scott Paper Company's Detroit plant. The pump was formerly driven by a special belt, but 6 of these belts failed in about 3 months. In comparison, a Super HC Drive has been operating for the past year with NO down time and NO replacement cost.

ON EQUIPMENT FOR SALE, Super HC High Capacity V-Belts produce savings all down the line—as on these sand pumps being readied for shipment from Denver Equipment Company's plant. With Super HC, sheave dimensions can be reduced 30% to 50%, overall space up to 50%, drive weight by 20%, and drive cost by as much as 20%, compared to previous drives.

A little more than a year ago Gates introduced a new high capacity V-belt—a slimmer, tougher, more flexible V-belt with far greater capacity to transmit horsepower than conventional belts.

Because this revolutionary V-belt permits narrower sheaves, fewer belts, and closer center distances, hundreds of plants across the country have found Gates Super HC V-Belt Drives contribute to profits in 2 ways: through marked savings in drive costs on production machines *within* the plant and on powered equipment manufactured *for sale*.

Gates V-Belt Distributors and Field Engineers are listed in the Yellow Pages in all major industrial centers. Ask your distributor for the handbook, *The Modern Way to Design V-Belt Drives.* TPA 544

The Gates Rubber Company, Denver, Colorado
Gates Rubber of Canada Ltd., Brantford, Ontario

Gates

The Mark of *Specialized* Research

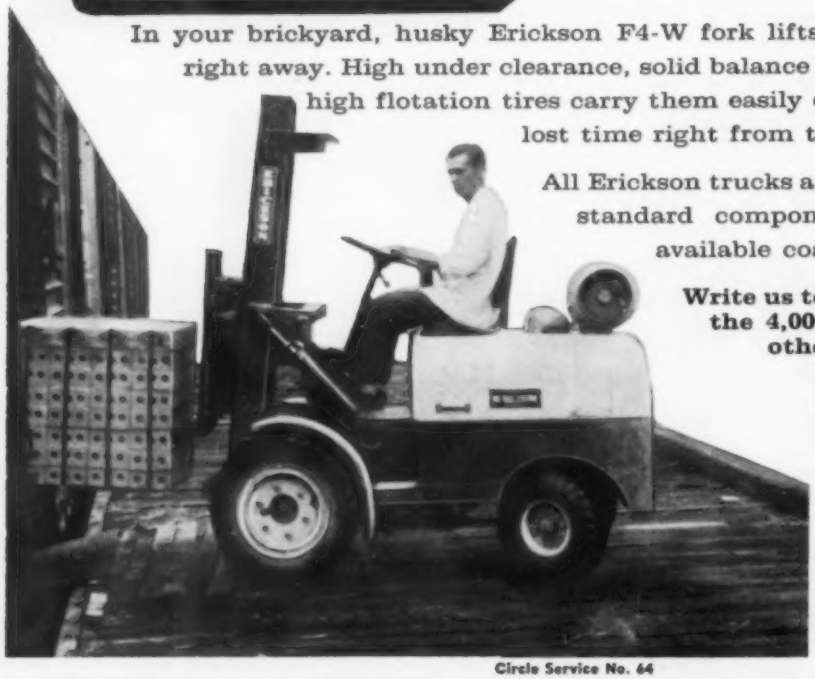
same hp capacity in smaller "package"

GATES SUPER HC HIGH CAPACITY V-BELT DRIVES

Circle Service No. 63

REDUCE BRICKYARD OVERHEAD—NOW

with *Erickson* the workhorse of lift trucks!



In your brickyard, husky Erickson F4-W fork lifts can start cutting costs right away. High under clearance, solid balance and four big heavy-duty, high flotation tires carry them easily over mud and litter. Cut lost time right from the start.

All Erickson trucks are built using well known standard components. Parts are always available coast-to-coast.

Write us today for specifications on the 4,000 lb. capacity F4-W and other cost-cutting Erickson models—also the name of your nearest Erickson authorized Sales-Parts-Service dealer.

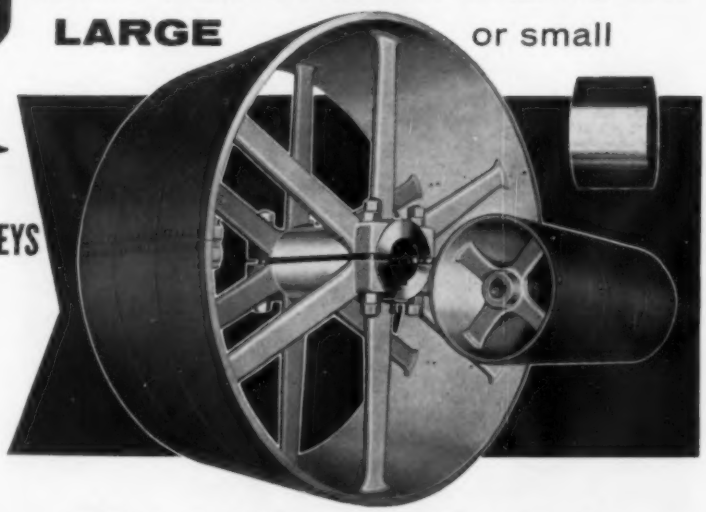
FAST PICK-UP—Good visibility, power steering and side-shifter make it easy for operator to move cubed bricks.

ERICKSON POWER LIFT TRUCKS, INC.
269 ST. ANTHONY BLVD. N. E.,
MINNEAPOLIS 18, MINN.

Circle Service No. 64

PULLEYS THAT PERFORM ON THE JOB...

LARGE or small



EHRSAM

MICROMETAL CAST-IRON PULLEYS

There is no substitute for experience in producing cast-iron pulleys for use in our many modern industries. Today, after 88 years of experience, the Ehrsam Company is still continuing research to produce quality cast-iron pulleys.

Whether you use small pulleys or large pulleys, totally split pulleys, corrosive surface or wearing surface, you can be sure of quality gray cast-iron plus service when you specify Ehrsam Micrometal pulleys.

In quality cast-iron pulleys, experience counts and this is what Ehrsam is noted for. Call the J. B. Ehrsam and Sons Manufacturing Company and discuss your needs for standard or special pulleys.

THE J. B. EHRSAM & SONS MFG. CO.
ENTERPRISE • KANSAS

BRANCH OFFICES: ATLANTA, GEORGIA; CHICAGO, ILLINOIS; DENVER, COLORADO; DES MOINES, IOWA; FORT WORTH, TEXAS; HASTINGS, NEBRASKA; KANSAS CITY, KANSAS; PHOENIX, ARIZONA; SAN FRANCISCO, CALIFORNIA.

SALES REPRESENTATIVES: THOMER EQUIPMENT CO. • MINNEAPOLIS, MINNESOTA

Circle Service No. 65

Continued from page 75

A. P. Green keeps a close control on the raw material in all phases of operations.

The second day's operation was concluded with a social hour and banquet held at the Clemson House Hotel. J. J. Cermak from S.C.P.I. in Washington, D. C., discussed "Some Philosophy from the Clay Hole", a humorous discussion on anecdotes from the brick industry.

John M. Dickey, Jr., Consulting Engineer from Brookville, Pa., discussed the importance of maintaining a schedule and a steady schedule at all times. To maintain maximum production with maximum quality at the lowest cost thereby achieving high efficiency, high profits, Dickey pointed out the importance of scheduling production.

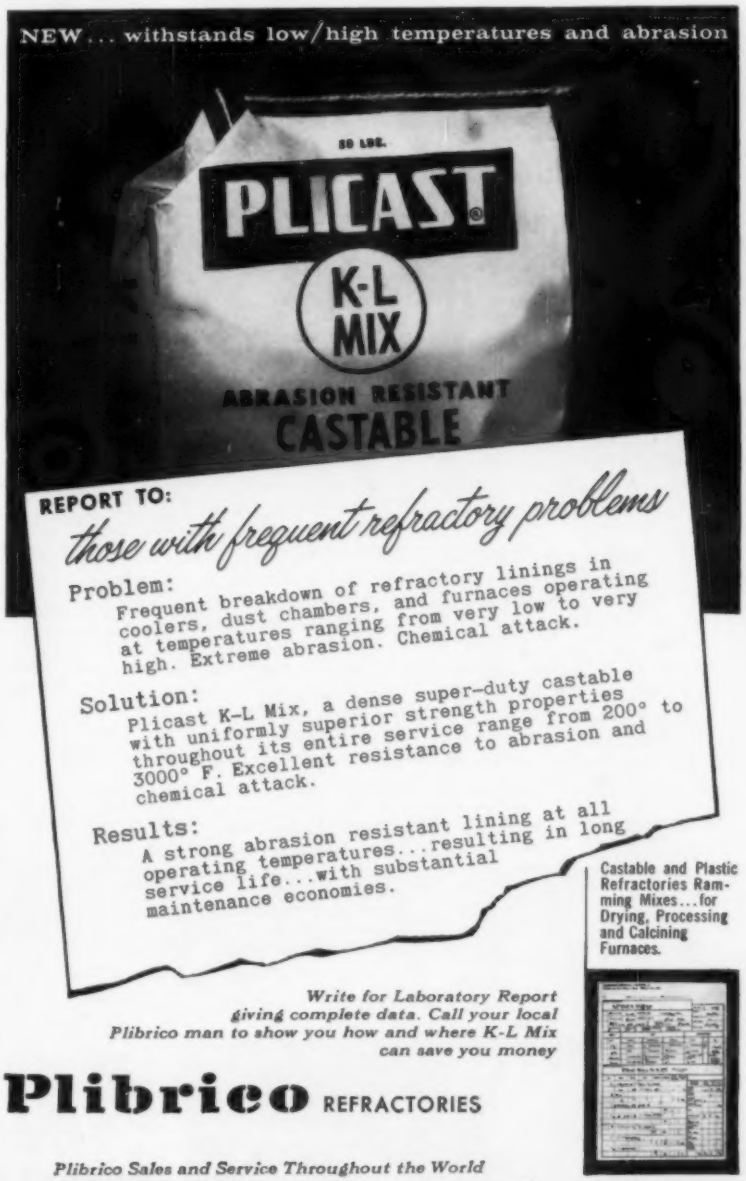
Dwight B. Hendryx, Hendryx & Associates, Pittsburgh, Pa., in his paper, "Design and Control Increases Dryer Performance", pointed out that it costs as much to make a broken brick and a number two grade as it does a number one brick. Improper graduation, improper blending, improper grinding, improper drying, are all factors that lead to trouble. Dryer trouble starts at the pit, follows all the way through the manufacturing process.

Psychometric Charts

J. L. Henderson, Jr., Robinson Ventilating Co., Zelienople, Pa., discussed how individuals can work out plant problems by the use of psychometric charts, heat volume charts and heat balance charts. Henderson discussed fans and ducts and stressed the importance of possibly maintaining "holding room" for keeping the ware at a uniform temperature after they are hacked on the dryer-kiln car.

The lightweight clay block was discussed in two papers, one by J. E. Rankin of Statesville Brick Co., Statesville, N. C. This paper appears in this issue of Brick and Clay Record. G. C. Robinson of the Ceramic Engineering Department, Clemson College, discussed the making of clay block on concrete block machines. He pointed out that there is no plasticity desired in the clay mix. He also pointed out that the raw material used in making the clay block must duplicate that of a concrete mix when used on a concrete block machine. The type of aggregate might vary being any nonplastic material, either natural or man made. Generally, the coarser the batch the less strength is gotten from the block. Since the size of the aggregate controls the shrinkage, the smaller the aggregate, up goes the shrinkage. The water content of the clay block mix is critical, with too much water the mass will become sticky and stick in the concrete block machine. With too little water there will be no bonding agent neressary and the block will disintegrate.

The bond clay in the block mix is also very critical. Up to 25% clay increases the strength while any more clay will again make the body sticky, thus resulting in improper functioning of the machine. Additives are usually added to improve the fluxing action and to reduce the plasticity. Partial size distribution was also noted and tests are now being performed to determine what will be the best particle size distribution or a proper mix.


NEW... withstands low/high temperatures and abrasion
PLICAST
K-L MIX
ABRASION RESISTANT
CASTABLE
REPORT TO:
those with frequent refractory problems
Problem:
Frequent breakdown of refractory linings in coolers, dust chambers, and furnaces operating at temperatures ranging from very low to very high. Extreme abrasion. Chemical attack.
Solution:
Plicast K-L Mix, a dense super-duty castable with uniformly superior strength properties throughout its entire service range from 200° to 3000° F. Excellent resistance to abrasion and chemical attack.
Results:
A strong abrasion resistant lining at all operating temperatures...resulting in long service life...with substantial maintenance economies.
Castable and Plastic Refractories Ramming Mixes...for Drying, Processing and Calcining Furnaces.
Write for Laboratory Report giving complete data. Call your local Plibrico man to show you how and where K-L Mix can save you money
Plibrico REFRACTORIES
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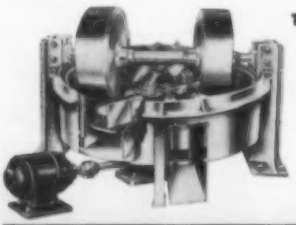
REFRACTORY PRODUCTS • ENGINEERING • CONSTRUCTION
Circle Service No. 66

Heavy reductions that make other grinders SHUDDER are routine for Clearfield Dry Pans!

Clearfield machines are built to take heavy loads in stride. Ruggedly constructed of durable cast iron, they serve for years and years with minimum attention. Since all Clearfield dry pans have revolving pans with screen plates in the bottom, fineness of grind can be easily and accurately controlled. Crushing rolls are wide faced and spread far apart to give maximum crushing area per revolution. High production is achieved without excessive pan speeds, thereby reducing vibration . . . prolonging life of the machine.

There's a Clearfield machine to meet every grinding and mixing need. Send for our technical bulletins and see why Clearfield machines last longer, grind better . . . for less money.



THE MODEL 900 DRY PAN, our latest model, features totally-enclosed direct motor drive for easier maintenance, lower production cost. Comes in 8½ and 9-foot diameters.

CLEARFIELD MACHINE COMPANY

CLEARFIELD, PENNSYLVANIA, U.S.A.

Pacific Coast Representative:
Fernholtz Machinery Company, 8468 Melrose Place, Los Angeles 46, Calif.

Circle Service No. 67

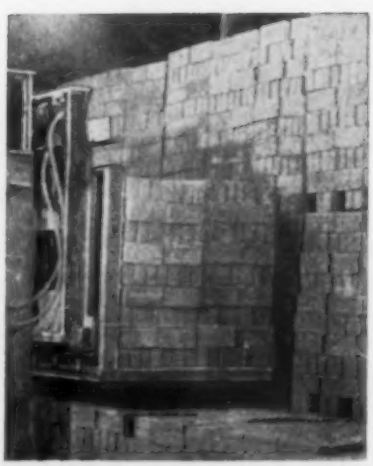
Make Brick Handling Easy...

PRIESTER Brick Forks

- Save Time
- Save Money
- Save Labor

Also Priester truck cranes for unloading from delivery trucks. Write for bulletin.

Brick in units of any size are handled by Priester Brick Forks. Automatic operation simplifies and speeds brick handling setting and drawing kilns, loading and unloading trucks and box cars.



Forks with flap grippers for cored and solid brick. Give service . . . take the hard work out of brick handling. Write today for more information.

BRADNEY MACHINE CO., INC.

Middletown, New York

Circle Service No. 68

Letters to the Editor Con't.

I have some news of the industry that you may use in your next issue of *Brick and Clay Record*. This is the first public announcement of our planned major expansion and improvement and it will begin at once.

By the first of January after we have completed the foundation, outside trackage and necessary buildings to house our proposed tunnel kiln, actual work will begin on its construction. We anticipate that the kiln will be completed about the middle of 1961 and operation of this unit will be started, cost to be about $750,000.

Material to be burned in this new kiln will be select quality glaze tile and glaze brick, second to none in quality. For many months the shareholders of this company have been seriously considering setting in adequate production for the low cost manufacture of glaze products in a high quality line with the variety of colors.

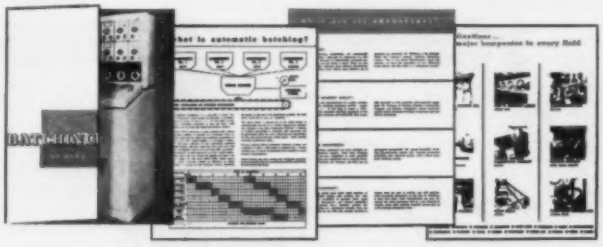
Glaze tile for the Southwestern states is going to come from production in this area ultimately just as the light brick, which formerly was shipped into this area from Ohio and Pennsylvania, now is all shipped from Texas and Arkansas Plants. If we, who are already in the business in this area, do not make the plant expansion necessary to fill up this vacuum, then others will take the initiative and furnish the necessary production.

We have reached a point where we are more than just a company. We are an institution. Our company aims to bring to this community a better, happier life for its employees and a greater service to the community in which we do business.

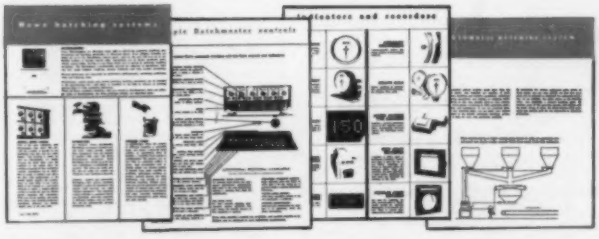
We believe modernization is a must to meet the trends of times. Our plant has been brought up to modern efficiency with the latest improvements. We are located in an area to serve the South, Southwest and Southeast market. With this market in mind, our decision was easily reached to expand our present facilities.

Very truly yours,
J. K. Prewitt, President
Elgin Standard Brick Mfg. Company

AUTOMATIC



BATCHING



HANDBOOK

Everything you need to know about Automatic Batching
How to do it
How much it costs
What you need
How to use what you have
How to select the right system

If you are now combining two or more ingredients in any kind of formula or batch, write now for this new automatic batching handbook. It describes in detail how automatic batching works, how to convert existing plant facilities or plan new plants for automatic operation. It illustrates the latest batching systems available, helps you select the right type for your particular needs. Also shows you how to combine materials handling equipment, storage facilities, and weighing equipment for greatest economy, increased production. This is the newest, most complete handbook on automatic batching available—be sure to write for your free copy today!

HOWE

THE HOWE SCALE CO., RUTLAND, VT.
A SUBSIDIARY OF AMERICAN MANUFACTURING COMPANY, INC.
HOWE SCALES OF CANADA, MONTREAL, QUE.

Circle Service No. 69

Classified ADS

Limited to Want Ads, Consulting Engineers, or Used Equipment ads, (wanted or For Sale)

TRANSIENT WORD ADS: 12c per word for each insertion.

Headings such as "Wanted", "For Sale", etc. and address to be counted as part of the ad. Minimum charge $2.00 each insertion.

POSITION WANTED ADS: $1.50 for 25 words or less; each add'l word 10c.

FOR USE OF BLIND ADDRESS: (Care of BRICK & CLAY RECORD) count as 15 words to cover cost of handling and forwarding replies.

DISPLAY-BOX TYPE ADS

$15.00 per inch. On advance orders for twelve consecutive issues, $12.00 per inch per insertion. (No retroactive adjustment).

An inch is measured vertically on one column, 2¼" wide; three columns on a page. For a two-column advertisement add together height in each column.

Display classified advertisements are set and rates apply in half-inch multiples. (1 inch minimum; 5 inch maximum).

Add 25% to above rates for Reverse Plate (white lettering on black background).

All rates based on payment in advance except on regular contract.

No Agency Commission or Cash Discount

BRICK and CLAY RECORD

5 South Wabash Avenue
Chicago 3, Illinois

WANTED—HELP

WANTED: Ceramic Engineer with practical operating experience and supervisory ability, interested in permanent connection having real and visible growth potential with established Midwest plant manufacturer with diversified clay color and product output. Address Box 11-ABR, care of BRICK & CLAY RECORD.

POSITION WANTED

CERAMIC Engineer B.S. degree. Age 40. 14 years experience in plant operation, research, design and construction in structural clay products and refractories. Address Box 11-ACX, care of BRICK & CLAY RECORD.

POSITION WANTED by a graduate Engineer in the Heavy Clay Products Industry as temporary assignments. 20 years experience in Geological exploration and mapping, raw material survey, plant design and layout, Research and Development, Combustion technology. References. Per Diem basis only. Address box 9-ABN, care of BRICK & CLAY RECORD.

MECHANICAL Engineer—10 years structural clay products experience in plant layout, design and construction of new facilities, considerable materials handling design and construction, desire similar position with manufacturer, or consultant. Will consider other locations. Address Box 11-ABQ, care of BRICK & CLAY RECORD.

PLANT MANAGER—Ceramic engineer—20 years successful record in management, design and construction, new product development, quality and production control system. Write Box 11-ABT, care of BRICK AND CLAY RECORD.

MARRIED Man middle thirties, desires position as assistant superintendent or general foreman. Ten years experience in refractories, foreman capacity. Will consider learning building brick or tile business. Good health and background. Will relocate anywhere for good opportunity. Address Box 11-ACA, care of BRICK & CLAY RECORD.

GRADUATE Ceramic engineer with 12 years experience in structural clay products. Extensive tunnel kiln experience. Desire position as superintendent or plant manager with progressive company. Address Box 11-ADI, care of BRICK & CLAY RECORD.

FOR SALE—USED EQUIPMENT

TWO J. C. Steele #18 cutting reels, with platten widths 2 7/16" and 2⅞" good condition. Watkins Brick Co., Ensley, Birmingham, Ala.

5—2 YD. DUMP CARS
5 Easton V-Shape, 36 in. ga. steel 2-way side dump cars.
$145. each, Branford, Conn.
DARIEN CORP.
60 E. 42 St., N. Y. 17, N. Y.

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BRICK & HOLLOW TILE MACHINES—Dealring & Non-dearing
PUG MILLS—Single & Double Shaft
GRANULATORS—Chambers 51 & Freese 16
CUTTERS—Steele 18, Freese & Hand Drain Tile
DRY PANS—7', 9'
HAMMER MILLS—Many Sizes & Micro
CONICAL ROLLS—Chambers #10
SMOOTH ROLLS—16x30, 30x36, 16x10
DISINTEGRATORS—12", 18" & 24"
JAW CRUSHERS—24x13, 24x36, Lab Size
ROTARY DRYERS & KILNS—2x30, 3x30, 6x50, 7x50, 8x125
LAB MILLS—Hammer Mill, Cone Crusher, Cone Blendor
SLIP LAWNS—Crossley Double Deck

5" LAB PUG MILL EXTRUDER
LAB SIGMA BLADE MIXERS

HAND TILE PRESS
MIXERS—Lancaster EAG 3 & 4, Clearfield 610, Blystone, Simpson No. 2 Apke Sigma Block
SCREENS—Hummer 3x5, 4x10, Cedar Rapids 3½ x10, Single, Double & Triple Deck
FEEDERS—Disc, Apron, Reciprocating
HARDINGE CONICAL MILLS—4', 6', 7', 10'
PEBBLE MILLS—Various Sizes
FANS PRESSURE BLOWERS—Many Sizes
PYROMETERS, Recording, w/couples

LIST YOUR SPARE EQUIPMENT WITH US
ROBERT L. CLARE
212 Rector St. Perth Amboy, N. J.
Phone Hillcrest 2-0061

JUST PURCHASED!

1—Symons 2' shorthead cone crusher, 30 HP
2—Bonnet 7' x 60' rotary dryers, ⅝" shell.
2—Davenport 8' x 60' rotary dryers, 7/16" welded shell, comb. chambers, burners, fans.
1—Louisville 7' x 70' rotary cooler, ½" welded shell, 1952.

IN STOCK
ROTARY DRYERS & KILNS

1—Vulcan 10' x 11' x 175' rotary kiln, 13/16" shell.
3—National 10' x 78' rotary dryers, ¾" shell.
2—Hardinge 8'8" x 70' rotary dryers, ⅝" welded.
1—8' x 60' rotary kiln, ½" welded shell.
2—8' x 56' rotary kilns, ½" welded shell.
2—Stearns-Roger 8' x 40' rotary dryers.
1—7'6" x 62' rotary kiln, ½" shell.
1—Allis-Chalmers 7' x 50' rotary dryer, ⅝".
1—6' x 7' x 100' rotary kiln, ⅞" shell.
1—Louisville 6' x 50' rot. steam tube dryer.
2—4'9" x 32' rotary dryers, ⅜" shell.
1—Ruggles-Coles 5'6" x 40' rotary dryer.
1—Standard 3' x 23' rotary dryer, ¼" shell.
1—12" x 8' stainless steel dryer on stand.

PERRY EQUIPMENT CORP.
1432 N. 6th St. POplar 3-3505 Phila. 22, Pa.

FOR SALE—USED EQUIPMENT

DE-AIRING MACHINES—FRH (PA4) 3HP—FRH (PR6) 7½HP—J. C. Steele 50 Special, 15" auger 100 HP—Bonnot 18" auger 150 HP—American (801) 18" auger 200 HP

CUTTERS—Automatic Reel—J. C. Steele #18—Freese P25, 10" belt—Chambers #10, Roman & Norman brick

PUG MILLS—9' Freese—10' American (2nd shaft)—15' Granulators Freese/Chambers

DRY PANS—7' American—9' Bonnot—2 American 418 grinders

DRYERS—24" x 24"—3' x 24'—5' x 40'—6' x 20'—7' x 58' (50 HP gearmotor)

CRUSHERS—DISINTEGRATING—18" x 16", 24" x 12"—30 x 16—24 x 30

LAWLER COMPANY
Metuchen, N. J. Liberty 9-0245

BRICK MACHINES: Intl. Vac-Air Porcelain, FRH Jr. Steele 30, 40, 50 deaired. Others #1, #2, 5A Steele, Ray.
Freese GH w/10' pug and D18 Disc Feeder
Boyd 4 mold, Gates 2 mold DRY PRESSES
6 & 9' DRY PANS. 5' WET PANS
MILLS: Dixie 2424, 3650, 5060, Williams #30, #40 Hammer, 4x6, 5x9, 5x17, 5x21 Ball. 12' & 16' Pug.
TILE CUTTERS: FRH type 2B. Amer. 858
DRYERS: 3x13, 4x20, 5x24, 6x50, 8x70, 8x125.
TUNNEL KILNS: Ladd Cronin Circular 70' dia. Four: 125-150' long. Also complete plant. 300 sgi & 3-deck DRYER CARS 24" & 26" ga.
#4, #5, #6 Steele DISINTEGATORS
Conveyors, Loaders, Shovels etc.
MID-CONTINENT EQUIPMENT CO. INC.
8321 Gannon St. Louis 32, Mo. Wydown 1-2826

FALL BARGAINS

DE-AIRING MACHINES, #50 JC Steele FRH #6WJ6, Bonnot Combination, Chambers #9C, American 404-A, International #470, International Falcon.
CUTTER, Steele #18, Model BLH, Freese C-25, and C-20.
ROLLS, Disintegrating, Steele 24 x 24, 12 x 24, smooth roll 18 x 24.
DRY PAN, 9' Stevens, 9' Bonnot.
SCREENS, Tyler Hummer, Cedar Rapids, Sturtevant.
DRYERS, Rotary. Various sizes from 2x30 to 8 x 175.
FERNHOLTZ MACHINERY CO.
8468 B Melrose Place
Los Angeles 46, California

Side Dump Cars: 120—1½, 2, 3 and 12 Yards
Gasoline Locomotives: 4, 6, 8 and 14 tons
Diesel Locomotives: 6, 10, 25, 45, 65 and 80 tons
Smooth Roll Crushers: J. C. Steele 12" and 18"
Automatic Cutter: Freese Model C-25
Rotary Dryers & Kilns: 4'x20', 5'x30', 5'6"x50', 80"x60', 6'x120', 7'x180', 8'x125", 10'x200'
WANTED—Air Compressors—Dryers—Locomotives
R. C. STANHOPE, INC.
603 42nd St. New York 17, N. Y.

J. C. Steele #4A Disentegrater completely rebuilt W/New Rollers 15 H.P. Motor $1,500.00
J. C. Steele Cutter #18 Fair Condition ..$1,000.00
J. C. Steele #88C Even Clay Feeder W/Motor & Drive Assembly Fair $2,000.00
1-Meco Dryer Induction 54" Fan Complete W/10 H.P. motor, Louvers, Inspection Doors $ 550.00
90 Double Deck Dryer Cars Like New ..$ 30.00
18 Tons 25# Rail Good Condition ....$ 120.00
BUNKER HILL BRICK CO.
7620 Washington Houston 7, Texas

FOR SALE—USED EQUIPMENT

1-Toronto 6' Type "C" Dry Pan with 20 HP chain drive with new screen plates and all new wearing parts. Can be converted to Wet Mixing Pan. Good condition, rebuilt and guaranteed.

THE TORONTO FOUNDRY & MACHINE CO.
Toronto, Ohio

DESIRABLE EQUIPMENT AT REALISTIC PRICES

Crushers and Hammer Mills
Muller type Mixers-Mills
Rotary Dryers and Kilns
Sifters, Screens, Separators
Filter Presses and Filters
Ball & Pebble Mills
Raymond Imp Mills, All Sizes
Presses and Pellet Machines

Send for "First Facts"

FIRST MACHINERY CORP.
209-10th St. Bklyn. 15, N.Y.
ST. 8-4672; Cable "Effemcy"

FOR SALE—Bickerstaff Forks——Surplus
4—Good Condition—Size 4 x 5
2—Fair Condition—Size 4 x 5
5—Worn Condition—Size (2) 4 x 5 (3) 3 x 4
1—New (never been used) Size—3 x 4
Write or call—General Shale Products Corporation—Kingsport, Tennessee
Telephone—Circle 5-6193

WALTER C. STOLL & SONS
New and Used CLAY WORKING MACHINERY
5028 Alhambra Ave., Los Angeles 32, Calif.
CApitol 2-1141

RAILS AND DRYER CARS
250 Single Deck Dryer Cars
40 Triple Deck Dryer Cars
50 Rack Cars
All sections rails and track supplies. New Wood Pallets made to your specifications.

M. K. FRANK

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480 Lexington Ave. New York 17, N. Y.
105 Lake Street Reno, Nevada
1200 Metropolitan Bank Bldg. Miami 32, Florida

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257 Used Dryer Cars

Double Deck, 24" gage, 10" wheels 42" Wheelbase located Clearfield County, Pa. Contact North American Refractories Co. Contact Director of Purchases North American Refractories Co.
1012 National City-E. 6th Bldg.
Cleveland 14, Ohio
Ma 1-5200

FOR SALE—USED EQUIPMENT

FOR SALE—Gleason Shredder, Complete portable unit with hopper, feed belt, and slinger assembly. Good condition ready for immediate operation. Tri-State Brick and Tile Company Inc., P. O. Box 9787, Jackson 6, Mississippi—Phone EM 6-6485.

FOR SALE—PLANT

FOR SALE

8 Gas Fired Kiln plant located at Lisbon, Ohio on Erie RR. Fire Clay and Shale available. Low Trucking rate to Eastern Ohio and Pennsylvania markets. Terms can be arranged.

KEAGLER BRICK COMPANY
P. O. Box 9 Steubenville, Ohio

MISCELLANEOUS

FOR SALE—Cone 34 Calcined Flint in lump or ground form and cone 36 High Alumina Nodular Clay. Union Minerals, Inc., 2306 First Natl. Bank Bldg., Pittsburgh 22, Pa.

FAST DELIVERY ON MINERVA FLUORSPAR TO Control Green Scum On Light Face Brick

Receive swift service by truck from new ware house at E. Liverpool, Ohio. (1-day delivery within 100 mile radius) or F.O.B. Mines, Cave-In-Rock, Illinois. Minerva Fluorspar vitrifies brick at low temperature, insures permanent color control for approx. 50c per ton of Clay. Write for free booklet and free test sample today.

THE MINERVA COMPANY
FLUORSPAR DEPT. BC-11-0
ELDORADO, ILLINOIS

For Sale—Lower Kittanning buff burning plastic Fireclay. Mine run, crushed, or ground. Consolidated Clay Mines Negley, Ohio.

F. J. FORD
Representative—Engineer
Clay Working Machinery
Car Tunnel Kilns—Dryers
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T. W. GARVE, P.E.
69 W. Weisheimer Rd.
Columbus 14, Ohio
Engineering Service. Clay Testing
DRYERS & KILNS TO FIT
We have designed every type of kiln for every kind of fuel and ware, TO FIT.

Forrest A. Paschel
Phone Sherwood 2-2749 & 2-2500
P. O. Box 289 Siler City, N.C.
Representing:
Huber Warco
Robinson Ventilating
Lippmann Engr. Wks.
Penn Crusher Div.
Diester Concentrator
Engineering Associates
Manufacturers Equip.
Southern Fabricating

FOR SALE—BUFF BURNING FIRE CLAY, lump or ground. Ask for prices at mine or delivered via truck or railway. Boos & Co., Macomb, Illinois.

MISCELLANEOUS

FLINT CLAY—P.C.E. 34-34—Crude or ground—For sample & analysis, write Consolidated Clay Mines—Negley, Ohio.

WANTED

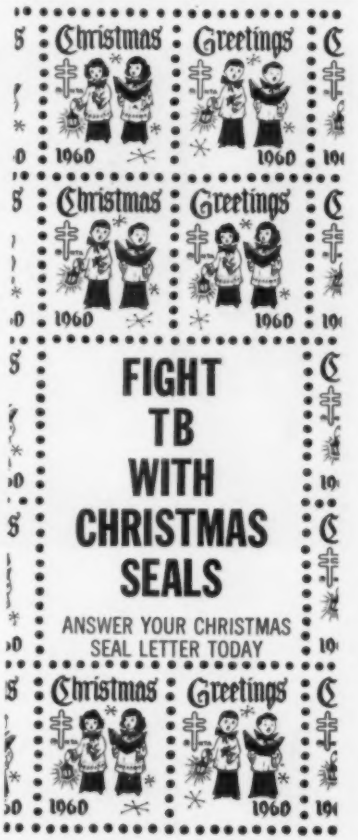
ADDITIONAL Products Wanted—Building material distributor with growing volume, four salesmen covering New England, modern warehouse, own trucks and trailers, looking for new or established wholesales line to sell to lumber and building supply yards. Interested in brick, flue, and any other lines. Members of NBMDA. Write or call Superior Column Company 250 Maple St., Chelsea 50, Mass.

WANTED—A copy of the September, 1949 issue of BRICK AND CLAY RECORD. Please advise us if you can supply a copy. Address your reply to Box 11-KHC, care of BRICK & CLAY RECORD.

WANTED—HELP

WANTED—Two ceramic engineers who have had some experience and are well qualified. One should be experienced in production while the other should have experience in research. The product in question is structural. Write Box J.J.S. care of BRICK & CLAY RECORD.

THE STORY of LIGHTWEIGHT Clay Aggregate
A Series of plant descriptions showing how LW clay aggregate is made and with what equipment
A full study of methods, firing, pallet forming, grinding, handling
50c Per Copy
Book Dept.
BRICK & CLAY RECORD
5 South Wabash Avenue, Chicago 3, Illinois



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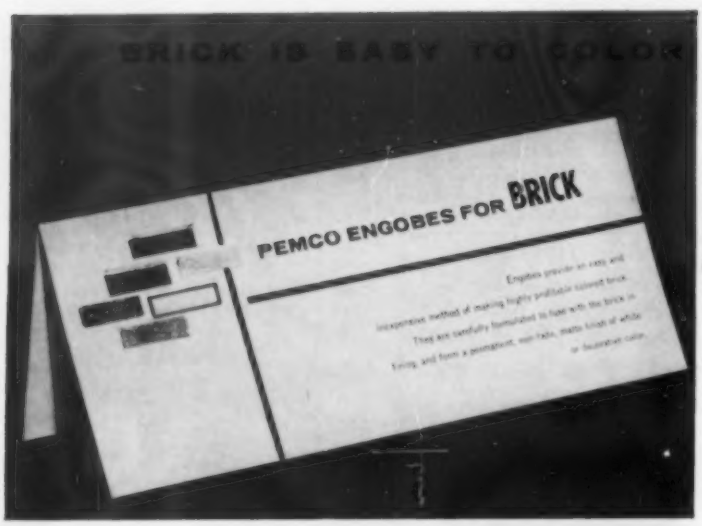

WITH

PEMCO ENGOBES

Send for color folder

Engobes are compounds of clay, color and frit. Use wet or dry on unfired brick . . . color fuses permanently in the kiln.

Instructions for application are printed in our color chip folder. Write for your copy now.

50 YEARS OF RESEARCH AND A FLAME

PEMCO CORPORATION

BALTIMORE 24, MARYLAND

Manufacturers of ceramic frits, inorganic pigments, vitrifiable glass colors

Circle Service No. 70

POSEY WORKS FOR BETTER

COLONIAL BRICK

Bigger profits with the automatic PALLET CAR LOADER

Automatic Pallet Car Loader, combined with the Lancaster AutoBrik Machine is the best way to automate production for sand molded colonial brick.

Write for FREE illustrated brochure on automatic brick machinery.

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Custom Fabrication For Over 50 Years

DIVISIONS:

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- Tunnel Forms
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- Foundry
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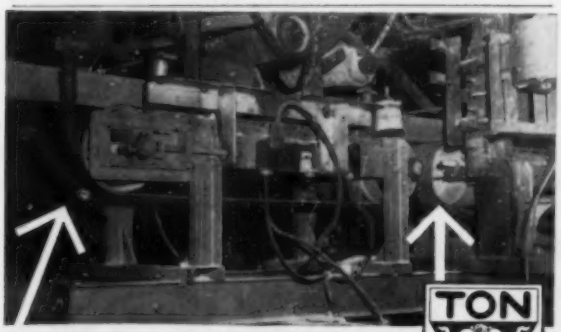
200 SOUTH STREET LANCASTER, PA.

Circle Service No. 71



Get peak production from brick-cutting machines with Ton-Tex Oil-Ex belts

TON TEX

The right belt gets the most production from a brick-cutting machine. Ton-Tex Oil-Ex is a tough, durable belt, highly resistant to oils, water, heat, abrasion. Minimum shrinkage and stretch — little down-time for take-ups. Oil-Ex is made of plies of selected cotton duck firmly bonded together with Neoprene and special compounds. Made in 2 types of duck, 7 different weights. Can be vulcanized endless.

Write for 20-page catalog — FREE "Ton-Tex Conveyor Belting In Industry"

For peak production get all the facts on Ton-Tex Oil-Ex belts.

TON-TEX CORPORATION

GRAND RAPIDS 2, MICH.

ENGLEWOOD, N. J. SAN JOSE 26, CALIF.

TON-TEX CONVEYOR AND TRANSMISSION **BELTING**

TON TEX

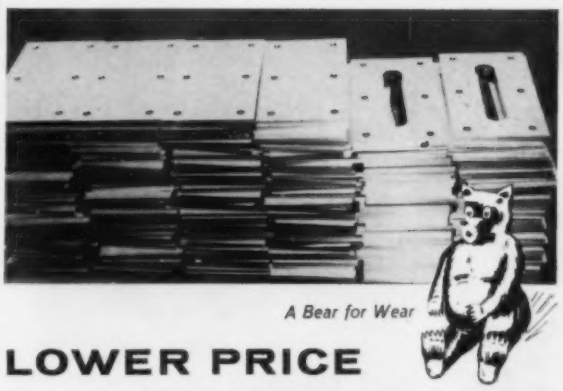
Circle Service No. 72

Another "cost-saver" by LATROBE

NEW

Press-Mor

BRICK MOLD LINERS AND DIE PLATES



A Bear for Wear

LOWER PRICE *plus* LONGER LIFE

Specialists for over ten years in the development of high alloy die steels for refractory applications, Latrobe now adds another "cost-saver" to its prominent line—***Press-Mor*** Brick Mold Liners and Die Plates.

Made of Latrobe's new BR-3—a patented 5% chromium, high vanadium die steel—***Press-Mor*** liners and plates repeatedly lowered operational cost in over two years of extensive field tests in silica, mullite, basic and fire clay molding. Results showed longer service life at lower cost than liners and plates made of other premium wear-resistant steels!

Put a *plus* profit factor in your molding operations . . . specify ***Press-Mor*** Liners and Die Plates!

Send today for Price List P-0-3-276

LATROBE Metalmasters

LATROBE STEEL COMPANY

LATROBE, PENNSYLVANIA

Branch Offices and Steel Service Centers throughout Industrial America

Circle Service No. 73

It Can't Cook! but it can sure FEED

STEELE'S NO. 88-C EVEN CLAY FEEDER

No other feeder handles the variety of materials that the 88-C is successfully feeding in hundreds of installations. It's just about the only good feeder for moist, sticky clay. With granular materials it's fine under large bins or silos for uniformly feeding without choking, arching, or bridging. Its hopper is ample for direct charging with a front end loader.

The 88-C draws the line at big rock-hard lumps. Can't digest 'em. With nearly anything else it feeds like a champion; day after day, year after year — without regard to weather conditions and most other variables.

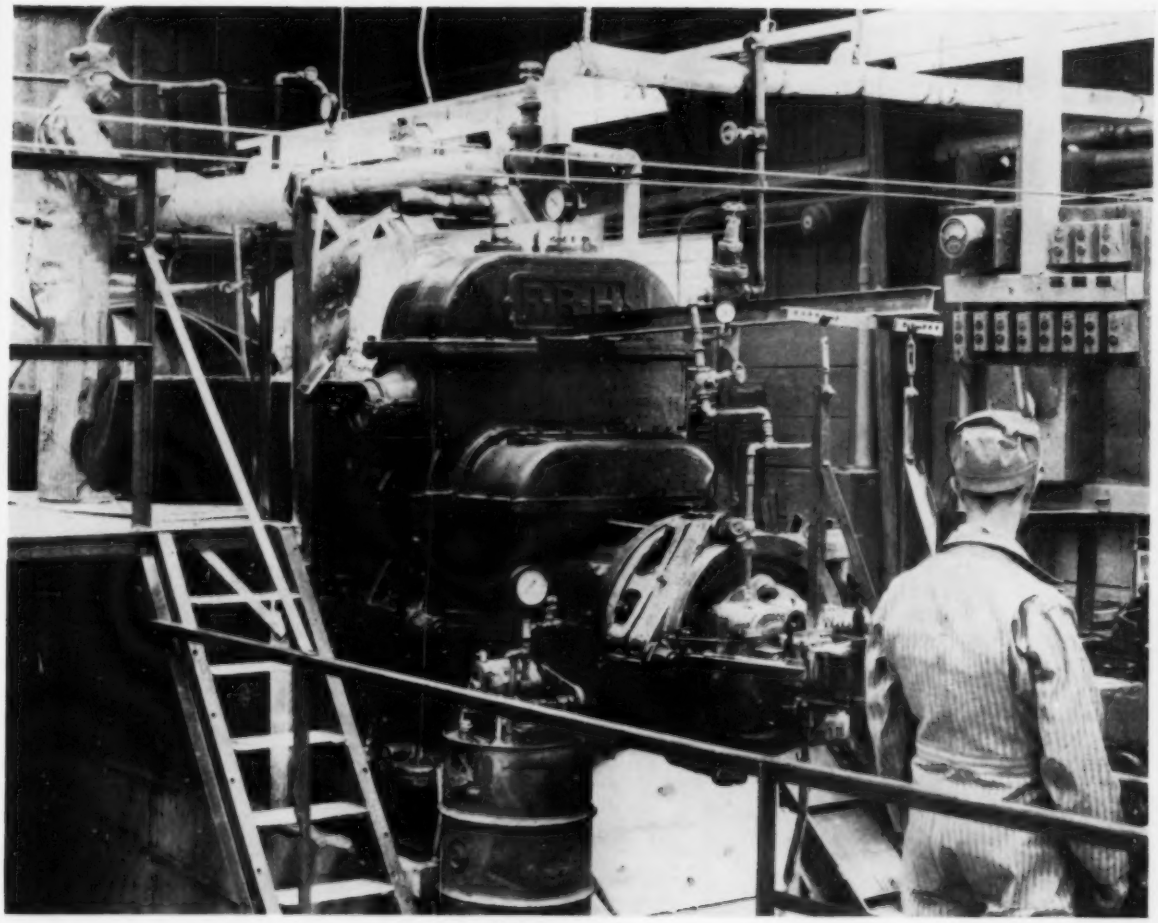
SUSTAINING ASSOCIATE SCPI

J. C. Steele & SONS Statesville, N. C.

Pacific Agents: Walter C. Stoll, 5028 Alhambra Ave., Los Angeles 32, Calif.

THE BEST IN CLAY MACHINERY SINCE 1889

Circle Service No. 74



"Brick Production Is Up 26%--With F-R-H De-airing Extrusion Equipment"

Reports Alliance Brick Corp., Alliance, Ohio

"Excellent," is the way Mr. Leo K. Edgar, Superintendent of Alliance Brick Corporation, Alliance, Ohio, describes the operating qualities of the F-R-H De-airing Extrusion Machine currently in use at his plant —where F-R-H equipment produces high quality face brick, turns out almost half a million units per week.

"Our brick production is up about 100,000 units for a 40-hr. work week, maintenance time is down considerably—since we began using F-R-H De-airing Extrusion equipment about 3 years ago," says Mr. Edgar. "Present product quality is much better, too!"

Find out today how F-R-H Brick and Tile Machines can increase production, improve product quality, reduce operating and maintenance costs for you. Simply send a brief outline of your operations to The Fate-Root-Heath Company, Dept. B-1, Plymouth, Ohio.

F-R-H

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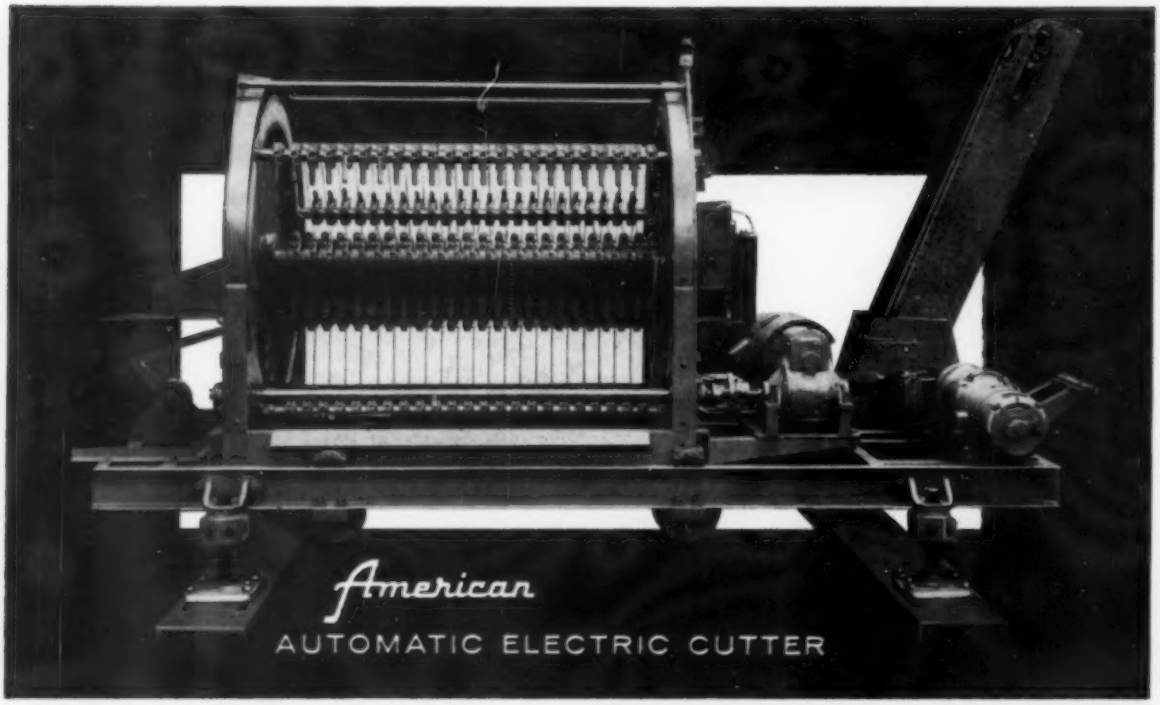
BIG CAPACITY BRICK PRODUCTION



CUTS UP TO 18,000 BRICKS PER HOUR

Every motion of the "American" No. 858 Automatic Electric Cutter is electrically controlled to give precision accuracy of any brick or tile cut up to 14"x14". This electric control is unfailing . . . there is no chance for error.

The "American" No. 858 is a complete unit . . . there are no extras to buy. Wire holders and platens are adjusted easily for any size requirement, and the base adjusts up or down to suit any cross section of clay. The hourly capacity of the "American" No. 858 Electric Cutter is from 3,000 to 18,000 bricks . . . 23 standard bricks per cut. This is truly the best cutter for "SCR" brick. Other features include: anti-friction bearings throughout . . . magnetic clay bar clamp for perfect cut . . . hinged measuring frame can be lifted to permit die or front change . . . no valves or gears.

Investigate the advantages of the modern, fully automatic "American" No. 858 Electric Cutter . . . it's designed to give you efficient, dependable service for years.

American CLAY MACHINERY

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